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## EDITORIAL.

### ON THE COMPOSITION OF MEDICAL PAPERS.

After many years of polite endurance on our part to the tenebrously obscure style of medical papers, an Englishman has at last voiced the sentiments of those who have longed for simplicity and clarity, by publishing a book containing many ideas as to how a scientific paper ought to be prepared so that the English language undefiled may have a chance to assert its time-honored rights. The book in question is by Dr. T. Clifford Allbutt, no mean authority we should add, and bears the prolix title "Notes on the Composition of Scientific Papers." It is compact of good sense and good ideas, and it ought to mean much to him whose modesty has made him aware that his multitudinous medical papers have been a failure on account of an exasperating tautology, and the unwise introduction of Latin and Greek words and phrases. But since modesty has never been a burdensome quality of the American writer of medical papers we are not amiss in saying that small profit will come from Dr. Allbutt's preachings, despite their serious intent and undeniable import, to those hundreds of makers of medical papers whose hands, while devoid of the desired literary cunning have, nevertheless, the irrepressible itch for writing. This pessimistic view is prompted by the fact that books on similar subjects have left no impress on the medical mind; from which we infer that of all minds the medical is about the least sensitive to the newer literary canons promulgated by recognized purveyors in our best literary journals and is so decidedly steeped in the fuliginous atmosphere of the medical writers of the early fifties, that to entertain a ray of hope for directness, terseness and brevity must be ranked among the great puerilities of the age.

Kinglake in "Eothen" says, "An Englishman journeying in the East must necessarily have with him Dragomen capable of interpreting the Oriental language," and the same might be said of the gentle reader of our medical journals, who of an evening promises himself a scientific treat, only to find the bastard Johnsonian English with its many Latin and German incrustations a weariness to the soul and an instigator of mental distress. Even though his qualities as a linguist stand him in

good stead, each foreign word or phrase must strike him as a foolish incursion that has but one object—the weakening of the mother tongue with its attendant confusions, and a cloaking of the scientific spirit. Well might he say with Browning: “Although I take your meaning, ’tis with such a heavy mind,” but even this apt quotation will not prevent him from experiencing a sense of disgust with the writer for seducing him into reading an article of unnecessary ponderosity, when a slight regard for the literary tenets of the day would have done much to make the reading a pleasure and a gain.

So long as medical papers are composed with a lordly disregard for the literary “dress,” and with a complacent superiority on the part of the writer for the reader, the change we desire cannot take place. Of course, simplicity would curtail verbosity considerably, and clarity would do much to strip modern medical papers of the false pedantry which now clutters them. These qualities may be considered disadvantageous by writers who stand in fear lest their papers might be ranked with the purely scientific and literary productions in our best journals, but the sooner the lesson of normal literary values is learned, the greater will be the honors accorded. Because a medical paper can be easily read and understood is no indictment against its worth and value; rather should it be a matter for congratulation that any essay bearing on the science of medicine is free from the medievalism which unfortunately has always been a concomitant of the inexact sciences.

Machiavelli tells the following story of Catherine Sforza in the citadel of Forli: “Surrender or we slay your children, which we hold as hostages,” cried the besiegers. “Kill them if you like. I can breed more to avenge them.” The papers as composed for our medical journals today seem to be born with the same ease and in the same spirit of revenge which characterize Catherine Sforza’s words. Let us hope that after our criticism the overweening love of the medical aspirant for literary honors will have longer periods of barrenness.

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### IMPORTANCE OF THE CLINICAL LABORATORY.

Until very recently the work of the clinical laboratory, especially with regard to its value in diagnosis, has been unduly magnified at the expense of other well established methods of this art. The brilliant results obtained from the discovery of improved laboratory technique have been among the marvelous achievements in the development of clinical medicine. Yet the overestimation of these results, especially by those who do not understand their application, and the optimistic claims by a few enthusiastic laboratory workers, have created for the methods of the clinical laboratory transcendent values which they really do not merit. The reaction from these influences has recently been felt by the medical



profession of this country. The last Congress of American Physicians and Surgeons considered this subject in a symposium on "The Relative Value of Laboratory and Clinical Methods in Diagnosis." Noted American clinicians, Herrick,<sup>1</sup> Holt,<sup>2</sup> Cabot,<sup>3</sup> Emerson,<sup>4</sup> some of whom are authority with regard to laboratory findings, have written extensively to correct these impressions of the medical profession of today.

Mistaken notions which have existed regarding the value of laboratory diagnosis have been properly aired by these discussions and their import and remedy should be seriously considered by every practitioner. The causes at the base of this condition are due to four important factors: First, mistakes of the laboratory; second, faulty interpretation of laboratory findings; third, lack of clinical experience and observation on the part of the laboratory man, and fourth, improper relationship between the laboratory expert and the clinician. Mistakes of the laboratory consist of incompetency, failure on the part of the laboratory to acknowledge its limitation, the absence of the realization of the personal responsibility of the laboratory diagnosis, and the tendency to make diagnoses from laboratory findings alone. The faulty interpretation of laboratory findings is due rather to the shortcomings of the general practitioner than to laboratory methods. Men untrained in laboratory work are especially ignorant as to the limitations of clinical laboratory means. The absence, for instance, of the positive Widal reaction during the first week of the disease is mistaken to exclude typhoid. The negative finding of plasmodia in the blood or tubercle bacilli in the sputum from a single careful examination is all that is considered necessary for a negative diagnosis of malaria or tuberculosis. The absence of the leucocyte count is taken to indicate the absence of a pus infection, while we know that the leucocytosis merely measures the resistance of the patient, and when this resistance is low, as in the most severe pus infections, leucocytosis is absent. The negative findings of Klebs-Loeffler bacillus from a culture taken from the pharynx allows a diphtheria infection of the larynx or bronchi to proceed to a fatal termination without treatment. The limitation of pathological diagnosis of kidney diseases from urine was pointed out clearly by Cabot in his comparison of urinary analysis with post-mortem findings. He demonstrated, for instance, how the most severe and fatal types of parenchymetous nephritis (glomerular nephritis) produced no albumin in the urine. Others have practically established the fact that cardiovascular findings, even with a practically negative urine, were the cardinal signs in interstitial nephritis. The absence of the knowledge of laboratory limitations is most conspicuously exhibited on

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1. Oration on Medicine at the 58th Annual Session of the American Medical Association.

2. Medical Tendencies and Medical Ideas (Jour. A. M. A.).

3. Limitation of the Urinary Diagnosis (Jour. A. M. A., March 18-25, 1905).

4. Bulletin Johns Hopkins, Jan. 1903, XIV, No. 142.

the part of the general practitioner by the specimens presented by him for diagnostic purposes. A piece of shriveled tissue taken at random from a growth is sent to the laboratory without other data for a diagnosis upon which depends perhaps a serious operation. A drop of dried blood is presented for a complete blood examination. A patient is sent to a Roentgenologist for a photograph of gall stone, or cyst of abdomen. The lack of clinical observation on the part of the laboratory man accounts for a great many of the mistakes coming from the clinical laboratory. Too frequently laboratory diagnosis is turned over to incompetent students and young graduates whose inexperience in laboratory technique, coupled with the lack of the opportunity of getting the other important clinical data concerning the specimens examined, is enough excuse for the unreliable diagnosis. Working independently in the laboratory, without any other knowledge of the patient, they are too prone to draw positive conclusions from only probable findings. And in order to retain the high esteem of the clinician submitting the specimens they overstep their province and make a positive diagnosis instead of merely reporting their findings. Because the urine contains a small amount of albumin and numerous leucocytes, the diagnosis of cystitis is ventured without inquiring whether the urine was from a female, and whether or not it was a catheterized specimen or one probably containing vaginal discharge. An acidity or hyperacidity of the stomach contents has frequently been the sole basis for a diagnosis of carcinoma or ulcer of the stomach. The reduction of copper sulphate solution by urine has misled the general practitioner to give a bad prognosis, when that reduction was due to a little chloroform added to the urine as a preservative. Nothing has done more to place the laboratory methods in general bad repute than this lack of inquiry, or a demand by the laboratory man to have all the clinical data at his command before giving an opinion upon his own findings. Physical and laboratory findings are to be studied and compared. This can not be done either in the laboratory or at the bedside alone. Nor do even these two places of investigation complete the needed observation for the finished clinician. He must be a constant attendant of the operating and autopsy room. Two European clinicians of prominence who are versed as well in the theoretical as the practical side of laboratory work speak as follows: Romberg<sup>5</sup> said: "For the internist, pathological anatomy is even today indispensable. A thorough study of pathological anatomy is the best rule for the diagnostician." Neusser<sup>6</sup> speaks of pathological anatomy as "the mistress of our diagnostic art," and says a little later concerning the value of a control of our clinical work that "the dead speak a language and this language brings to the intelligent physician, at the bedside of his patient, calm satis-

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5. *Erfahrung und Wissenschaft*, 1905.

6. *Ueber Diagnostik und Therapie in der inneren Medicin*, Vienna, 1893.



faction and lends him strength and accuracy." Strumpell<sup>7</sup> regrets the error made by the modern physicians in neglecting the fine art of observation, painstaking attention to the minutest changes, and the careful consideration of all anamnestic statements of the patients, and adds that while employing the newer methods of examination he should not allow pure clinical observation to fall into disuse. The laboratory man can no more be in ignorance of the clinical aspects of a case than can the clinician be of the clinical laboratory work. This, then, properly leads up to the most important factor regarding the most satisfactory use of laboratory findings as an aid to diagnosis. The accomplishment of the highest efficiency of the clinical laboratory will be obtained when there is the proper relationship existing between the worker in the clinical laboratory and the practitioner, providing the practitioner does not do his clinical laboratory work. The laboratory man should be a consultant, with all of the privileges that an ethical consultation includes. All the information obtainable from the anamnesis, physical examination, course of the case, etc., should be placed at his personal disposal and investigation before he should be asked or even would venture to give an opinion upon any important laboratory finding. He should be allowed a reasonable consulting fee for his opinion, not merely a fee for making a special examination. On the other hand the practitioner should personally investigate and observe all laboratory findings in order to be in a position to properly fulfill responsibilities placed upon him.

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#### THE DIET OF THE SICK—A STUDY IN NATIONALISM.

Among the important forces which go to the making of a world's power, nationalism, according to the thinkers who have concentrated their mental powers on the subject, is the greatest of all. By its adoption and dissemination among a people the proper ferment is introduced to prevent stagnation; and when progress is the watchword of a nation, who shall gainsay its physical and mental growth. The world to-day knows what Germany owes to Ferdinand Lasalle for the Germanic idea, to what extent England is indebted to John Bright and Herbert Spencer for her best British traits, and what French philosophers of nationalistic tendencies have recently done to tear France from her medieval moorings and place her before the world as a progressive intellectual power, when the rank and file in English-speaking countries thought her a pitifully weak and decadent nation.

Now what has all this to do with the diet of the sick? To the medical pundits whose range of vision has been narrowed down to something infinitesimal by the exaggerated appreciation and adulation of their pa-

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7. Eröffnungsrede zum XXIII Kongress für innere Medizin in München Deutsch. med. Wochschr., 1906, XXXXII, No. 18, page 726.

tients, making them averse to all the broadening effects which should enter into their mental make-up, the subject of nationalism as an inherent part in the conduct of all their patients, in so far as it may, and, to be more emphatic, should affect the subject of dietetics, will seem superfluous. If it were possible to convince these pundits of the many errors of which they are guilty because of their neglect in considering the vital subject of nationalistic traits on the part of their patients, traits which make for abhorrence of many foods ordered or prescribed, the matter of nationalism as a potency for good or for bad in the sick-room would soon be understood. Health, as we all know, is a normal condition whose behests though imperious are graciously granted by laymen and physicians for reasons which, while they may be far removed from scientific thought, are nevertheless tinged, unwittingly, by the spirit of nationalism. In other words, when a healthy Frenchman in the course of a conversation with his American physician betrays an insuperable preference for *perdreau truffe*, *galantine de volaille*, a *demi-bouteille de vin tres-vieux de Macon ou Chablis* and *fromage de Gruyere*; over liver and bacon, ham and eggs, apple pie and cider; or an Englishman expatiates on the culinary delights of cold roast beef, Yorkshire pudding and ale, the physician never throws up his hands in holy horror and begs his friend to desist. But directly the Frenchman, the Englishman, or any other foreigner is ill with an ailment the gravity of which should not deprive him of his customary diet, the aforesaid medical pundit immediately insists on the strict observance of his peculiar ideas of dietetics. And the wrong he does his patient is enormous, for from a physiological and psychological standpoint the sudden descent from a favorite dish that the patient's nationalism has made an integral part of his daily existence, to an unpalatable something that could be concocted only in an American diet kitchen, works woe to the patient's mental and physical forces.

As yet this country is not made up of a people of decided American national traits; rather is it a composite of all the nations of the world. Therefore, the autocratic insistence on the part of the physician as to the carrying out of his ideas of dietetics indicates a crass ignorance that only the illuminating rays of an education which shall teach him the importance of considering his patient's nationalism, can dissipate. To offer any but a German of the peasant stamp Knorr's Cooked Lentil Flour, or, as Sir Thomas Browne, in "Miscellany Tracts," says, "The husks of peas, beans, or such edulious pulses;" to press on one who has been pampered by European culinary refinements, the insipid productions of our weakened culinary art, must necessarily arouse the Boanerges ire of the fair-minded advocate of nationalism as it pertains to the sick-room, and can be combated only by a pen plucked from the wing of the dragon of the Apocalypse. Truly our progress is not such a triumph as



the medical world supposes, since Dean Swift in the "Conduct of the Allies" wrote: "We have dieted a healthy body into a consumption by plying it with physick instead of food."

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### SOME SALIENT POINTS IN THE TREATMENT OF TUBERCULOSIS.

The war against the ravages of tuberculosis, though its powers are limited as regards the cure of the developed infection, is nevertheless a splendid means of advancing the possibilities of protection, for its fundamental idea is based on making infection well-nigh impossible. The segregation of tuberculous persons by placing them in special institutions is today one of the important procedures utilized throughout the world to lessen the evils of infection. This procedure it is claimed is not only of benefit to each individual whilst in an institution, but its good influence—i. e., the lessons learned and habits acquired—is instrumental in changing the individual's attitude to his own family and to the people with whom he might come in contact. Tuberculosis is, in the main, a directly contagious disease, and in the majority of cases it is acquired only by personal contact with a tuberculous subject. The idea that sanatoria will have the effect of eliminating this disease cannot rationally be entertained. Tuberculous patients are not materially benefited in sanatoria; in fact, in Germany, the results have been decidedly disappointing, and, furthermore, the good effect that is said to accrue to the patient from educating him to a proper understanding of his future surroundings can have but a relatively small effect upon the ultimate solution of the problem of eliminating tuberculosis. The great majority of patients in sanatoria have been sick for years before they were taken into the institutions. During this period many persons, from constant contact with them, have had opportunities to acquire the disease; but the shortness of the interval between the patient's leaving and his death precludes much further danger from his contact with others. Thus we see that the great danger of dissemination really lies in the period anterior to the patient's admission into a sanatorium.

Considering all the attempts which are in usage today to exterminate tuberculosis—sanitation, segregation, disinfection—the real cause of the dissemination of the disease is as yet overshadowed. By this we mean the fact that in the majority of cases the diagnosis is made only in the advanced stages of the disease, and furthermore only after destructive lesions are fully developed and the tubercle bacilli demonstrated. Many individuals, despite the lack of patent indications—sputum and cough—have nevertheless been sources of infection. It is put forth by some institutions that only incipient cases are accepted, but this cannot be true for rarely are so-called cases of recent infection reported without a

statement of the finding of the tubercle bacillus and therefor are in reality of long standing. Though the disease may often be dormant, a diagnosis can nevertheless be made. The diagnosis of tuberculous infection must not be dependent on microscopic demonstrations of the bacilli, but on conditions which cannot be explained at present and which result from certain obscure disturbances. In the majority of these conditions specific reactions justify any suspicion the physicians may have. In this way open tuberculosis will gradually cease to exist and the infection of others cannot, therefore, occur.

At present the sanitary and hygienic improvements are insignificant, a fact easily understood by a study of the manner of living of the majority of mankind. To thoroughly educate the public to a proper appreciation of hygienic and sanitary rules is as yet a figment that exists only in the imagination of some optimistic minds. It rests with the medical profession to bring about the desired change, and this can be done only when physicians fully realize that the diagnosis of tuberculosis from the bacteriologic or microscopic basis must be superseded by a diagnosis from a biologic test.

If we ask for the theoretic justification of all the methods proposed or the procedures employed, we must admit that they are not based on any certain or established knowledge. The origin of the tuberculous infection, the manner in which the virus enters, and other problems, are questions that at present are being hotly discussed. The modern thought that pulmonary tuberculosis is not an inhalation infection, at least in the majority of cases, but almost always a resorption from the whole gastro-intestinal tract, with secondary location in the lungs through lymph and blood dissemination, is by no means established by conclusive experiments or clinical experience. It does not, therefore, do away with the care that should be taken to prevent inhalation of tuberculosis material, but shows that conceptions of disease, though thought to be established facts, are subject to most decided changes.

The only certain result of the immense amount of work on the subject of human tuberculosis in the last ten years is the fact that the danger of infection is the human bacillus; that the possibilities of an infection from the bacillus of the analogous disease in cattle is justified only to a degree. The evidence for the justification of this possibility has been obtained in so small a percentage of cases that it can be practically excluded in any consideration of the human disease. More important than the climatic and all of the other ways of combating the disease is the reawakening of the use of specific substances in combination with the recognized dietetic and hygienic management of the patient. The latest results of the administration of the specific products of the tubercle bacillus have been very promising; no doubt they will soon be



in the hands of every man dealing with the treatment of tuberculosis. This method can be controlled experimentally; all other methods are entirely empiric and even now have been shown to be contradictory, to some extent, to the character of a tuberculous process.

Since our sympathies are always enlisted in behalf of suffering humanity, we must perforce encourage all attempts to annihilate tuberculosis. With the advance of that sort of knowledge which shall illumine our scientific methods, our present efforts will be strengthened by experimentally established and theoretically correct facts which will be the means of assisting us to the solution of the vexed question of how best to eradicate tuberculosis.

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### REED, CARROLL AND LAZEAR.

The recent death of Dr. James Carroll calls to mind the work accomplished in the year 1900 by the Yellow Fever Commission in Cuba. Dr. Carroll was the sole survivor of the principal members of this board, Dr. Reed and Dr. Lazear having died since the commission accomplished its heroic work; Dr. Lazear dying from an accidental inoculation at the very beginning of the operations against this pestilence.

We are struck with the lack of general knowledge and general appreciation of the work done by Reed, Carroll and Lazear; some honor they have received, but it does not seem commensurate with the good accomplished by them. That these three men are now dead and that their names will soon be forgotten, puts us much in the frame of mind of the book of Ecclesiastes. It seems hard that their names should so soon slip from the memories of men, and that we, as medical men, should not erect a greater monument to them that might be enduring outside our musty scientific archives.

Dr. Howard Kelley has done much in his book, "Dr. Reed and Yellow Fever," but the book, written shortly after Reed's death, seems slightly premature and insufficient. It does, however, give an explicit idea of the heroism of Carroll and Lazear, who were both inoculated with the dread disease, one dying and the other sustaining serious heart lesion after his attack. In fact, both Reed and Carroll practically gave their lives to this experiment as they both died young men. Dr. Thayer, in commenting upon the death of Dr. Lazear, said: "I wish, especially for the younger men here, that I might be able to picture to you Lazear as a man and companion; quiet, retiring and modest almost to a fault. He was yet a manly man with a good, vigorous temper, well controlled, and a rare physical courage with a deep love of his profession, and an ardent desire to make adequate contributions to its advance. When the news of his sad death became known, there were those who blamed what they regarded as unjustified temerity, who felt that such risks were not

for married men. With these, I cannot agree. No man loved his family more than Lazear, but he was engaged in a great work—and he knew it—in a work where, at a moment, no substitute could take his place. Lazear saw his duty clearly and where he saw his duty, fear and doubt could not enter in. He lay down his life before the Yellow Fever Commission had well entered upon their work; so early in its career indeed that his name appears in only one of its published reports. Nevertheless, although his untimely death deprived him of his full share in the brilliant results achieved, he did heroic service in the cause.” In the Johns Hopkins Hospital the following tribute to Dr. Lazear is hung: “With more than the courage and devotion of the soldier, he risked and lost his life to show how a fearful pestilence is communicated and how its ravages may be prevented.”

Following the death of Lazear, with truly unfortunate suddenness came that of Walter B. Reed, the head of the commission; and lately that of James Carroll, the second in command. That these men should not have lived and have been honored, as their heroism deserves, is sad indeed. To us it seems that a greater attempt should be made to keep their names alive in the memory of man, for surely no greater bravery and self-sacrifice has been exhibited. Their courage and altruism excel that of the soldier. The account of Dr. Carroll's illness, as given by Dr. Kelley, as well as the story of Lazear's death, gives to us a thrill of pride that our nation should produce such men, for they were truly American and as Dr. Kelley says, typified our American spirit and showed that it is not necessary to obtain education in foreign lands to be truly great in the realm of science. Another thought that strikes us forcibly is our disregard and carelessness of those who deserve the name of hero. Surely a man or a group of men who gave, as President Elliott puts it, “Control over that dreadful scourge, yellow fever,” deserves a place in our memories. We feel that little is known of Reed, Carroll and Lazear and we lament this ignorance. As a people we are inclined too much to

“Take the cash and let the credit go,  
Nor heed the rumble of a distant drum.”

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## PRACTICAL PHENOMENA AS THERAPEUTIC INDICATIONS IN PNEUMONIA.

Every year an autumnal discussion of the therapy of pneumonia is sure to occupy quite a large space in the pages of our medical journals. The usefulness of this may be granted, but it has not advanced our mode of treatment one step since the time when the enthusiasm of the phlebotomist was checked. If therapeutics is the most difficult of all medical sciences, then pneumonia is certainly its most inaccessible wilderness, for nothing



like a scientific clearing has yet been done in this therapeutic domain. Attempts are numerous, but every little pathway soon becomes hopelessly overgrown with contradictions.

The serious difficulty in all these discussions is that no two clinicians can agree on any definite therapeutic procedure. Some highly extoll one means; others pronounce it dangerous. Some save patients with veratrum or aconite; others believe that these depressing drugs should be avoided. Some insist they find an indication for the lowering of the blood pressure; others insist that the healing power of the body is increased by a normal tension of the circulation. Some think that tissue oxidation should be enhanced; Robin, among others, thinks it should be diminished.

A few years ago guaiacol and creosote were suggested as specifics for this disease and the use of these drugs seems to be extensive at present. A country practitioner, who has a large experience, recently assured us that he has had little trouble with his pneumonia cases since he began the use of creosote carbonate. Yet Rochester (Buffalo), declared that this treatment does not appear rational, "as it is simply adding another poison to the system of an individual in a profoundly toxic state."

When the ordinary objective symptoms were found to be unreliable indications, various investigators attempted to approach the matter from the chemical side. A study of the pre-critical condition of the blood and urine has revealed certain changes and these have been taken as guide-posts of a new therapy.

The fact that the chlorides are not excreted in the urine during pneumonia suggested that common salt may be very useful to the individual, and led to the hypodermatic administration of an isotonic salt solution. It has been especially recommended by Madison Taylor in this country. But the use of sodium chloride in this disease is old and administering it hypodermatically probably has no advantage over ingesting of it by the mouth, except in conditions of collapse.

The tremendous leucocytosis which occurs during the course of the disease has served as a suggestive phenomenon; but attempts to stimulate this change by nuclein or pilocarpin have not resulted in any signal results.

Robin, of Paris, studied the pre-critical discharge of urea and uric acid. In the defervescent period of pneumonia a discharge of a large amount of urea and uric acid takes place. He considers this phenomenon evidence not of direct oxidation, but acts of oxido-reducing hydration, which signifies the reaction of the body against the infection. In studying therapeutic agents which might stimulate this process, the metallic ferments seemed to meet the indications. The correlative chemical acts of the natural crisis is simulated by the action of metallic ferments, since these increase the out-

put of nitrogen. He suggests the use of gold, silver, platinum, palladium and manganese.

We very much fear that like the pre-critical symptoms of Sydenham, diarrhea and perspiration, the pre-critical discharge of nitrogen is only a symptom of an increase in the function of certain organs without being directly connected with those functions that generate the antipneumococcus substances.

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### LITERARY NOTES.

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The latest annual catalogue of The Macmillan Company, which has just been issued, has been prepared in accordance with a new plan that gives it more than passing value. The catalogue contains a complete list of all books published by this company which are still in active demand, and it is especially valuable because these include the more important publications issued in the last fifty years or more by a number of the largest English publishing houses.

Masson & Cie, Paris, are about to publish Dr. V. Menard's "Etude Sur la Coxalgie." All those interested in infantile surgery will recall the writer's excellent treatise on Pott's disease. The present volume is the best work that has so far appeared in French literature on tuberculosis of the hip-joint. The author divides his subject into three parts: pathological anatomy, clinical study and treatment, and makes it a point to discuss thoroughly the diverse modality of the disease from the clinical, anatomical and therapeutic points of view.

"The Philosophy of Common Sense," containing philosophical essays and discussions, natural theology, psychology, controversies with Herbert Spencer, Huxley, Matthew Arnold, Leslie Stephen, Mr. A. J. Balfour, etc., by Frederick Harrison (Macmillan & Co.), is a book of serious thought and of considerable import to those students of medicine whose readings take them into fields other than the limited one of their chosen profession. Frederick Harrison is the rightful successor of the French Positivist philosopher, Comte, and everything that comes from his teeming brain bears the imprint of his great prototype. The present volume has all the forceful characteristics of his former efforts, and though we often decry controversies in ordinary conversation, their appearance in the literary guise with which Frederick Harrison clothes them, raises them to so high a level of controversial thought that a succession of volumes such as this would do much to stir the stagnant state in which the majority of us live.



## ORIGINAL ARTICLES.

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### MEDICAL MEN AND THEIR INFLUENCE ON HUMAN PROGRESS.\*

AN ORATION ON MEDICINE.

BY GEO. F. BUTLER, M. D.

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Marcus Aurelius, the pagan poet, philosopher and emperor, said in one of his profound observations, "Make for thyself a definition or description of the thing which is presented to thee, so as to see distinctly what kind of thing it is, in its substance, in its nudity, in its complete entirety, and tell thyself its proper name, and the names of the things of which it has been compounded, and into which it will be resolved." He further says, "For nothing is so productive of elevation of mind as to be able to examine methodically and truly every object which is presented to thee in life, and always to look at things so as to see at the same time what kind of universe this is, and what kind of use everything performs in it, and what value everything has with reference to the whole, and what with reference to man, who is a citizen of the highest city, of which all other cities are like families; what each thing is and of what it is composed, and how long it is the nature of this thing to endure."

This bit of ancient wisdom, regardless of its high authority, recommends itself to me, in contemplation of my theme. The term, human progress, depends for its meaning upon many conditions affecting the mind of its translator. That which would seem progress, advance, growth, development, to one, might seem quite the reverse to another differently situated. In the ordinary acceptance of the phrase, human progress is regarded as a material thing, and limited to the expansion of man's dominion over the physical resources of earth. That which makes for increased wealth, or ease in the production of wealth, which ministers to the material comfort of society, which extends the power of man to utilize and employ physical resources or increase the effectiveness of labor, constitute progress.

To my mind, all this (and I recognize its tremendous importance) is related to real progress as the growth of a lusty stalk is related to the ripened grain which it is intended to nurture and sustain. It is impossible for me to view this subject without asking myself this question: What is "that far off, divine event toward which the whole creation moves," that event which is to be (for the process is not complete) the culmination of the process which constitutes progress?

Is it presumption to suggest that as the intelligence of man is superior to his physical body, so is the moral nature of man higher and more

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\*Given before the Mississippi Valley Medical Association at Columbus, Ohio, Oct. 8th, 1907.

divine than the mere exercise of his intellectual faculties? I cannot avoid the conclusion that the moral nature of man represents the culmination of creation, as we know it; and that the process we call human progression, must continue through higher planes of effort and by finer conception of justice, until there shall have evolved a race in which theories of life shall be attained and practiced that embody spiritual and moral conceptions of human and social relations beyond our present powers of thought.

From certain points of view, human progress may be regarded as the reaction between character and institutions. If character in any way determines institutions, so also do institutions affect character. Indeed, the only valid test of institutions is their effect upon character. Human progress, therefore, is an expression of human character; and the problem becomes, what has been and is to be the influence of medical men upon human institutions?

It is then with the wish, if not the hope, to indicate the influence of our profession upon this conception of human progress that I diffidently address myself to this audience.

The *Ars Muta*, the Silent Art, as Virgil calls it, deserves its name for more and other reasons than those given by the great Roman poet. It does not obtrude itself upon the eye by gigantic evidences like those of the architect or sculptor's work; it does not dazzle by blazing masses of color as does the art of the painter; it does not intoxicate the ear with deliriously sweet sounds or the exultant stimulation of ideas as do the arts of the musician and the poet. Its influences are expressed in masses of cold figures, in prosaic statistics, that are far from being as eloquent as they might of relief to human suffering conferred by the mute art of medicine. From the time it liberated man from the pall of the unknown, which hung over him in primitive days, in the childhood of the race, our art has directly and indirectly stimulated every art and science which has blessed humanity. When the Medicine Man of primeval days passed from the stage of trance and incantation to the observation of the influence of foods and their effects upon the human system, which time and experience had shown certain occultly and mystically employed materials and procedures to possess, he lifted from human intelligence, for the first time, the veil of spiritism which certain currents of thought are just now striving to replace. When the tribal healer reached the point where he believed that black bile was the bed on which the devil reposed, and that it was possible by physical medication to cast him out, there was established the alternative hypothesis which replaced occultism with science and gave a natural and rational explanation to some of the phenomena of the physical universe.



Science has beautified and purified, so far as it has gone, and transformed a pessimistic spiritism instinct with the gloom of the unknown, into a world of beauty; and with a consciousness of rigidity, eternality and universality of principle and law, has come the sense of security and the development of intelligence as applied to the interpretation of nature.

Prosaic as medicine seems to the defective, in whom sentimentality occupies the domain of esthetics and other deep emotions, it has stimulated by its broad and general culture and its outlook upon the universe, the minds of artists, poets, naturalists, political economists and scientists, in every range of human thought as well as the more elevated philanthropic principles which underlie medicine itself.

The world remembers Michael Angelo as an artist, as the greatest master mind that ever worked in plastic medium, or by the graphic line, that appeals to the sense of beauty; remembers him as a poet, as a painter, as a sculptor, as an architect, the master mind in art; but it forgets that he was so attracted by the practical, scientific side of medicine as to express its beauty in a profound treatise of Ophthalmology.

Keats, the marvelous English boy, who wrought the work of a lifetime in early youth; who had imbibed more of the Greek spirit of beauty than any of the English poets, except, perhaps, Shelley, without doubt owed much of his intellectual inspiration to his training under an Edmonton surgeon and while a medical student at St. Thomas's hospital. Here he does not stand alone.

The great word painter of heaven and hell, the poet philosopher of the middle ages, Dante, was a member of the Apothecary's Guild, as was likewise the greatest dramatist of the 19th century, Ibsen.

The constitutional principles which underlie and express English speaking conceptions of freedom, and which played an enormous part in the development of all modern representative theories of government, found a far reaching and controlling voice in the physician Locke. To him the legal recognition of human rights, expressed in the Declaration of Independence, and in the similar manifestoes of the French Revolution, were largely due. The great American thinkers who founded the Republic were all of the intellectual school and disciples of Locke. To him was also due, in large measure, the social contract of Rousseau and the arguments which made it the gospel of the French Revolution.

Quesnay, born in 1694, famous as the first physician to the King, Louis XV., was far more famous as an economist. One of the chief founders of the school of political philosophers known as the Physiocrats, he was the author of the very name "Political Economy." His "*Tableau Economique*," the principal manifesto of the Physiocratic school, was pronounced by the elder Mirabeau, in a passage quoted by Adam Smith, as one of the three great inventions which have contributed most to the

stability of political society; the other two being the art of writing, and the use of a medium of economic exchange.

Five of the admittedly well balanced body of statesmen who announced the Declaration of Independence, the first trituration of Locke's principles, were physicians; all of whom played a prominent part in the Revolution and in the subsequent formation of the government under which we live, as well as in medicine.

Josiah Bartlett, who founded the United States Pharmacopeia, stood high among the leaders who stamped the principles of the great science of state medicine upon the American people. Perhaps the greatest of this group was Benjamin Rush, who in state medicine as related to the study of a provision for the defective class, stands *facile princeps*. He was the first great alienist of America and his book, after more than a century, still remains of great value. Of the five, Oliver Wolcott, the great financier, long guided the fiscal destinies of the Republic with success, in a department which is now too often relegated to cheap lawyers or cheaper business men, who lack the breadth of culture and the altruism which the medical profession gives. Matthew Thornton and Lyman Hall were both prominent in the statesmanship which guided the conduct of the American Revolution.

Washington recognized that medical breadth was particularly needful in the management of an army, where disease destroyed more victims than lead and steel. For this reason he chose Dr. McHenry as his secretary of war, an example which has been followed by McKinley and Roosevelt in their promotion of Dr. Leonard Wood.

The task of the American Revolution was constructive rather than destructive. English speaking revolutions have been evolutionary rather than revolutionary. They are usually contests for the retention of existing rights and the restoration and application of old principles of justice to new economic and industrial conditions, rather than for the creation of new constitutional growths. This tendency marked all the medical men of the Revolution. Dr. Tilton, President of the State of Delaware, reformed hospital management along the modern lines of asepticism and fresh air, and checked the boodle tendencies of contractors by establishing a military pharmacopeia, the first which made its appearance in the United States.

The medical statesmen of the American Revolution were of a broader and more judicial type than those of the French. Marat, through the suspicious effects of nerve strain and diabetes, as well as through the influence of the universal continental belief in assassination as a political instrument, was led to advocate the policy of the guillotine.

"In politics," remarks Alexander Dumas, in Monte Cristo, "we do not kill a man; we remove an obstacle." This code, as Carlyle says, was adopted by Marat, who through the influence of his "Friend of the



People," brought into use the humane guillotine. The superficial modifications of which he speaks were those introduced by the guillotine. Of Dr. Guillotine, the inventor of the beheading machine, Carlyle says: "Singular Guillotine, respectable practitioner, doomed by a satanic destiny to the strangest immortal glory that ever kept mortal from his resting place, the bosom of oblivion. Guillotine can improve the ventilation of the hall; in all cases of medical police and hygiene, be a present aid; but greater far, he can produce his "Report on the Penal Code," and reveal therein a cunningly devised beheading machine which shall become famous. This is the product of Guillotine's endeavors, gained not without meditation and reading, which product popular gratitude or levity christens by a feminine diminutive name, as if it were his daughter, "la Guillotine." "With my machine, gentlemen, I whisk off your head in a twinkling, and you have no pain, but an agreeable freshness about the neck;" whereat all laughed. Unfortunate Doctor; for two and twenty years he shall hear nothing but guillotine; then dying, shall through long centuries wander as it were a disconsolate ghost on the wrong side of Styx and Lethe; his name likely to outlive that of Caesar!"

Another great figure that looms prominent in the French Revolution, who through his direct influence on the people and his indirect influence on the Assembly, did much to clarify the political atmosphere, was Cabanis. He was one of the first physiologic psychologists; and with Guillotine, helped to lay the foundation of criminal anthropology. He, with Franklin, Bailly and Lavoisier, made the report on mesmerism, which still dominated the scientific aspect of hypnotism. The criminology of Cabanis and Guillotine was one of the most marked of the many philanthropic activities which marked the French Revolution, which struck off the chains of the insane and taught the deaf mute to communicate with his kind.

Another medical figure of the French Revolution was Souberbeille. This intellectual giant, while he voted for the death of Marie Antoinette, "on very sound constitutional principles," compelled the improvement of her prison treatment. While a surgeon and a fanatic about lithotomy as contrasted with lithotrity, he exhibits the scientific psychologic trend which marked nearly all leading physicians of the 18th century. This trend, as well as his clinical skill, is shown in the treatment of the epidemic of dysentery which broke out in the military camp during the Reign of Terror. He removed the victims to tents, in the open air, with plenty of space between beds and tents. "Another thing which helped very much," remarks Souberbeille, "was music, which brought diversion to the minds of the patients. Every morning the military band played at nine o'clock while passing the tents." Forty years after this Souberbeille urged that music should be played in the hospital courts

on the bridges of the Hotel Dieu, twice a day, as nothing in the world could better divert the attention of the sick from their sufferings, particularly in circumstances where the mind has so much influence.

The medical element in French political advance, which originated before the French Revolution, has always maintained its impetus; as is shown in the French Medical Premiers in the Third French Republic, the greatest of whom, politically speaking, is Clemenceau. He doubtless owes much to his training under American institutions, which he received when a practicing physician in New York City, during his exile from the Empire of Napoleon the Little. In the last French Congress there were ninety-two physicians, public servants of the highest type of usefulness!

The singular immortality of Guillotine is likely to be equaled by that of an American physician. The name of one leader is attached to a beheading machine; the name of another, 'Maxim,' is applied to a slaughterous weapon. Both these inventions, however, made for humanity. If executions must occur—"cruel and unusual punishments"—to use the words of the United States Constitution—"should be avoided, as they tend to brutalize the multitude into the enjoyment of savages around the stake." If war must be, the more terrible the slaughter in battle, the less will be the actual loss of life and the greater the human forces making for peace.

The influence of medical methods in war has but recently begun to be appreciated. Comparisons are not always odious, but no intelligent American, and in particular, no American physician, can institute comparisons between the work done by the medical staff of the army of the United States in our latest war and that of the medical staff of the Japanese army in theirs, without shame—not for himself or his profession, but for the stupid parsimony of the American people. It is true that the first reports of the phenomenal prescience of the Japanese authorities in protection of the health of troops in camp and on the march have been somewhat discredited by more recent reports; also that the results of hospital treatment, both surgical and medical, are now held to be due in part to other influences than mere skill of the medical staff; nevertheless, it must be admitted that there is an enormous field for the exercise of prevision by the medical staff of modern armies, and that as a people, the United States are not in the rank our talent and resources entitle us to hold in this respect.

One of the conditions indicating a supposed and often boasted progress in civilization is a corresponding depreciation in the value of human life, until it has come to pass that in the United States this element is actually the cheapest of all the materials out of which our self-styled "civilization" is constructed, and this not only with regard to military operations, but in the so-called arts of peace. When the Panama railroad



was built, it was figuratively stated that its every tie was laid upon the body of a man. An important element in the failure of the French to complete the Panama canal was the terrible fatality with which they had to cope, and the first provision to be made by our government, in taking over the actual work of canal construction, was to provide for the sanitation of the district.

The high moral plane developed in the practice of our art has found expression, in innumerable cases, to a degree which leads us to believe that the service of truth and the service of humanity are one. The examples of medical practitioners who have deliberately risked and even sacrificed their lives in a zeal to discover a truth that should serve mankind, have led us to believe that there is an influence in the broadening culture of the intellectual faculties imparted by this service which is reflected in a higher moral theory of life and its obligations. We have come to understand, and to appreciate more and more, the undoubted truth that man's relations to the infinite are measured by his relations to his fellow man, that the universe is one and that truth is but its plan, that if men can find this plan, and order their lives, whether as individuals or as states, in harmony and conformity with the blue print of the universe we call truth, then are these lives, so ordered, natural lives, and as medical men and scientists, we know that natural lives are wholesome lives. We who stand and wait in the service of mankind and truth, have come to know that nature is the kindest nurse and mother to all her children. We also know that she does not impart her mysteries and the secrets of her being directly to any, that only indirectly does she enlighten and instruct.

The cold, dry light of science proves, by the mere fact of our intelligence, which has been developed only by experience, projected against the background of immutable law and rigid principles, cushioned with infinite tenderness, that there is plan and intelligence in the universe; that nothing simply happens; that truth in all its aspects flows from one central illumination.

Every advance in sanitation, in hygiene, in regimen, every effort to prevent disease, to improve conditions of cities or districts, is a direct result of the interpretation of medical experience and the determination of underlying principles. Our silent art finds still an ever widening field, in which the altruism and the science of its servants are in demand.

The services of Dr. Reed in determining the etiologic relationship the stegomyia has to yellow fever, are merely an example of what we all mean and understand when we speak of these things. From immemorial time, our profession has had the well-being and happiness of mankind at heart.

Heretofore, or until recently, it may generally be said that our art has concerned itself with overcoming the effects of disease, of curing

disease when it once becomes established. Owing to our lack of knowledge concerning the nature and real cause of disease, this was only natural, and to be expected. With more recent acquisition and more definite knowledge, the hope of the profession, as well as of mankind, is directed toward the prevention of disease, and every advance toward this end, by improvement of conditions, sanitary or dietary, or of habit, has first been suggested and urged by members of our profession. In this respect we have no rivals or equals among other classes of men. Our profession stands solitary and alone, an emblem of genuine charity and usefulness.

The medical profession has taken up the question of extermination of disease-bearing insects, not merely in civilized lands, for Ethiopia has already shaken her wings to stretch them forth, and the first flight to be made is the extermination of these pests for the prevention of malaria and the dreaded sleeping sickness.

The service to civilization and human progress performed in Egypt and in the Soudan by the Egyptian Medical Service has been invaluable. Like Egypt, the Soudan depends for its prosperity almost entirely on the Nile, or rather, the Niles, and their tributaries. Dr. Beam's and the investigations of others on the waters of these streams, on the grains, salts and the gums of this region, promise for the future an immense and prosperous population in this land, and the labors of these men promise to place trade in Soudanese products on a sound basis. The commercial development of this great section must in the future be along agricultural lines, and will be ultimately based upon the work done by the Egyptian Medical Service in their investigation on water, milk, food stuffs, mineral deposits and natural products, as well as the not less scientific labors accomplished toward ascertaining the cause and determining the prevention of tropical diseases.

The researches and labors of Haffkine since 1893 are to the point. By his prophylactic treatment of cholera and his later discoveries of a serum against the plague he has shown the way to the physical redemption of India.

In the opening up of new and unknown countries we must remember the efforts of the physician explorers, Livingstone, Kane, Nansen and others. The *Lancet* truly says, regarding Livingstone, that his conquests were more than those of science. They were conquests of humanity.

I have referred to the development of the artistic and poetic imagination resulting from intellectual training in medicine and its allied arts. The imagination of the poet is the same force which, directed in other channels, form the inventor, the scientist and military tactician, the captain of industry, the statesman and administrator. Erasmus Darwin, the great biologist of the 18th century, who in many respects preceded and excelled his much more widely known and medically educated grand-

son, Charles Darwin, was a poet of renown, whose great works were frequently quoted.

Akenside, of "Pleasures of the Imagination" fame, was another 18th century medical poet. Another, a dramatist and a poet, replete with beautiful imagery and delicate wit, couched in peculiarly pellucid English, was Oliver Goldsmith. Sir Richard Blackmore was the first man who had the courage to raise his voice against the gross licentiousness of the drama and those products which constituted the light literature of the 18th century. Unskilled in the use of the pen, and immersed in the cares of an extensive practice, he undertook the production of a poem that should elevate and instruct, and not deprave the youthful reader. In this exalted and altruistic spirit, "Prince Arthur" was composed and published in 1695, when its author was nearly fifty years of age. "The Creation," his best poem, had such merit, that gruff old Johnson says of it: "This poem, if he had written nothing else, would have transmitted him to posterity, one of the first favorites of the English muse." Addison, the arbiter and standard of literary elegance, described the same poem as one of the most useful and noble productions in English verse.

High among literary, and yet more exalted among benevolent physicians, John Coakley Lettson, at one time President of the Philosophic Society of London, must be named. To give the list of his services would consume all of the time allotted for this paper. To him, as much as if not more than, to any other, were due the establishment of the Philosophic Society of London; St. George's-in-the-Fields, for the Prevention of Crimes and the Reform of the Criminal Poor; the Society for the Discharge and Relief of Persons Imprisoned for Small Debts; The Asylum for the Indigent Deaf and Dumb; Institution for the Relief and Employment of Indigent Blind, and The Royal Humane Society for the Recovery of the Apparently Drowned or Dead. All these and other institutions owe their existence to his efforts and care. Although he burdened himself with those aspects of his profession which represent public interest, was so active in practice, and always had upon his table some literary work or other, he, nevertheless, found time to do an amount of labor, in establishing institutions of charity and visiting the indigent sick, that would by itself have made a reputation for an ordinary practitioner.

Even to name the men, who though eminent in our profession, are yet better known to the world by their achievements in the fields of art and literature, would absorb more time than can be given on this occasion, but I cannot refrain from allusion to a few who have studied or practiced medicine: Smollett, whose wit and wisdom have delighted the world; Crabbe, Servetus, and Goethe, who in art, philosophy and science probably represented the universal mind more nearly than any other man



of his time; Reblais, the real founder of our present system of education, and Huxley. All these, of older days and other lands, find their antitypes in our times in Holmes, who pointed the way to abolish the scourage of puerperal fever, whose quaint pedantry, profound philosophy and delicious felicity of phrase, both in poetry and prose, was the charm of our modern Athens; in Mitchell of Philadelphia, and Warren of Boston. These and innumerable others lead us to believe that it is a peculiar influence resulting from the blend of cold, passionless science, with the philanthropy and altruism of the physician, that results in the literary charm, and the sweet charity that finds expression in the work of so many of our brothers. Evidence of the respect in which Dr. Oliver Wendell Holmes held medicine and the faith he had in its elevating influence is furnished by his remark that "Goldsmith, and even Smollett, both having studies and practiced medicine, could not by any possibility have outraged all the natural feelings of delicacy and decency as Swift and Zola have outraged them."

It is now recognized that nature's processes in all organisms approximate uniform courses. Society itself is regarded as an organism. We understand that, in the language of Spencer, only as social progress brings more numerous and varied experiences, can general ideas be evolved from special ideas, and the faculty of thinking them be acquired. Enlarged experiences, giving more abundant and varied associations of ideas, soften the rigidity of belief by multiplying the possibilities of thought. This plasticity of thought continues throughout civilization and in a large sense measures our progress, making beliefs more easily modifiable, and so promoting other changes, intellectual and social. While throughout the lower grades of intelligence, concrete objects and acts are reproduced in thought, and the imagination is thus almost exclusively reminiscent, the further development of the power of conception implies a continually wider range of thoughts, more numerous and more varied and involved, and makes possible new combinations where imagination rises into a constructive form, with an increase of originality, which tells at once upon the industrial arts, science and literature. These suggestions, by the greatest master of thinking power who ever lived among men, might have been drawn from the accomplishments of medical practitioners alone; for nowhere in the range of human accomplishments have these conclusions better foundation than among those medical men, who, as we believe, by reason of their medical training and practice, achieved such lustrous fame in other fields of activity.

Certain striking coincident crises in human history, occurring in periods of great intellectual and political ferment, would be dark indeed save for the lustre thrown upon them by the names of medical practitioners. The Golden Age of Greek philosophy and thought reflects,

down through more than twenty centuries, the glory of Hippocrates. Aristotle was the teacher of the world-conquering Alexander. Herophilus, the infallible, and Erasistratus, the sagacious, the one for his dissections, of which Tertullian accused him, and the other for his antiphlogistic treatment, are equally famous with the Ptolemys who founded the Alexandrian Library and Museum, and who ordered the Septuagint version of the Hebrew scriptures. Is there no meaning in the fact that Galen should have been the friend and the physician of the imperial philosopher, Marcus Aurelius? Was it the spirit of the time that made Vesalius contemporaneous with Luther? Is there food for thought in the fact that Harvey was the pupil and the physician of Bacon, or that, while Napoleon personified the new political idea, Bichat was reforming the science of life and art that is based upon it, that men who read the announcement of the *Researches on Life and Death*, read at the same time the flamboyant bulletins of the battle of Marengo?

We do not need to cross the seas to find the most conspicuous of American physicians, Benjamin Rush, as the intellectual offspring of that great movement that produced the American Revolution. As Oliver Wendell Holmes said, quoting a biographer of Rush, "The same hand which subscribed the Declaration of Political Independence of these states, accomplished their emancipation from medical systems formed in foreign countries, and wholly unsuitable to the state of disease in America."

The next step in the thought I would express, may be illustrated from the ranks of our own profession by examples I would recall. Having established or stated the foundation for my belief, that a direct influence of the study and practice of the art of medicine is to liberalize and enlarge the mental faculties along the humane qualities of its devotees, I am led to indicate my belief as to the conditions of independence and freedom from authority under which not merely advances in medical science, but ultimate truth in all its forms can only be secured. The struggle of the ages has been to secure emancipation of truth from authority; and nowhere, either in the political, theological or scientific world is this thought more clearly exemplified than in the history of medicine. As character can only exist where the mind is free, so truth can only be known where thought is free. In medicine, as in morals, truth is but a single unit in the sum of its entirety, and no two truths in the whole history of the world are found to contradict each other. The plan of the universe cannot belie itself. There are thousands of names in our profession which furnish illustrations of this principle; let us refer to but a few typical examples.

Barbeyrac, a teacher of medicine at Montpelier, was a Protestant in his religion, having outgrown, not the theory of religious thought, but the practice of its organized administration. His creed prevented his

official preferment, but his pupils were his enthusiastic disciples and followed his teaching. Freedom, religious and scientific, breeds in and in, as has been said, until it is difficult to distinguish the dominant type. Barbeyrac abandoned the old pharmacopeias as he had abandoned the ceremonialism of the Roman religion. Among his students was one John Locke, to whom I have referred. Can it be true that to this sturdy devotion to truth and freedom, found in his teacher, the author of the Essay on The Human Understanding owed something of that power which gave him so great an influence on subsequent history? Another pupil, Thomas Sydenham, was distinguished in the history of medicine. Sydenham, like Locke, was a Revolutionist, and went to Parliament in opposition to the unfortunate King Charles, and while never admitted as a fellow by the College of Physicians during life, after death his bust was placed by the side of Harvey's. While he was undertaking the reform of English politics, he reformed the practice of medicine. He administered air and cooling drinks to fever patients instead of sweltering them to sweat out disease. He prescribed exercise to victims of tuberculosis.

To go a step further, was there not a profound truth in the speech of medieval ecclesiastics, familiar to us all, and intended as a reproach, "Where there are three physicians, there are two atheists?" Would we call it a reproach to our profession if we understood that it is only by the spirit expressed in the words atheist, infidel, not used and understood, as in the speech of the ecclesiastics, as denying truth, but as denying statements purporting to be truth, which are known to be untrue; in other words, in arraying ourselves upon the side of truth as against authority, that our profession is entitled to respect, or has reached its high estate? Instead of a reproach, it is, and in the name of our profession and of truth must always be, her defense and her glory, that her servitors recognize no authority, save truth alone.

"What care we for our father's creed?  
What reck we of the ancient themes?  
Is Truth less true in newer deeds  
Than in decrepit dreams?  
All honor to our brave old Sires—  
The unforgotten, worthy dead;  
Yet shall our loftiest desires  
Be on their dullness fed?

"Give us new Truth altho' it break  
Upon us with the lightning's flash!  
Give us new Truth! The Nations quake  
Beneath the shifting crash.  
Give us new Truth! Our souls despise  
This blinding rush of deadly strife.  
Past forms of Truth are present lies  
Which canker all our life.



"Therefore, new Truth! And let it burst  
     Like red hot thunderbolts on those  
 In whom this fair world stands a curse  
     With such a hell of woes!  
 New Truth! Which evermore shall right  
     Earth's wronged and patient multitude;  
 And robe us all in rare delight  
     Of deep and earnest good."

And this may be the proper place to say, in the language of an ancient singer, "Truth is a tent that moves." If one erects the truth into a house, builds it into a temple, it will prove to be a tomb. As we recall ancient creeds of our profession, old practices and formulas, we can see that to have petrified them into shrines and temples would have entombed our profession; and until the last ultimate fact and principle has been achieved, our truth must simply be our tent; lest it should otherwise become our tomb.

One more illustrious name of the many that might be chosen, will suffice. Renaudot, a successful practitioner of medicine, who established himself at Poitou early in the 17th century, and became there acquainted with two personages of importance, namely Richelieu, later the mighty Cardinal, and Des Tremblay, his confidant and strong right arm. Under the protection of these men, Renaudot received the title of Physician from the King and took the oath before Dourat, Chief Physician to Louis the Eighteenth. Richelieu, with his keen insight into the worth of men, soon gave him the title of "Physician, Commissary of the Poor, Healthy or Sick, within the Realm." Renaudot established charitable consultations, furnishing drugs to the sick, the modern dispensary. He founded the first establishment in France for loans on deposits, the modern pawnshop. With a constructive imagination, he established the first journal, and an office of publicity under the name "Bureau of Information;" established a register of those who desired to purchase and those who desired to sell property, and was named the "Master Generale" of all these institutions. After perfecting the system the thought came to him that, as a further instrument to carry out these purposes, he would have them printed, that information might be sold to all who wished to purchase news. Richelieu, perceiving the importance of an organ, gave the authority, and the first newspaper ever published in France appeared under Renaudot's direction on May 30, 1631, with the title "Gazette."

As a result of his efforts on behalf of the impoverished, by free consultations and free distributions of medicines and service, and by loans on deposits, he incurred the enmity of powerful interests that were disturbed by the new order of things; an order which set free the suffering and dis-

tressed and relieved them from exploitation by the powerful. These interests and their agents set about the destruction of Renaudot. Notwithstanding that he had received the title, "Historiographer of the Crown," he lost both his protectors, Richelieu and the King. He had fulminated an epigram against the Dean of the Medical Faculty, Guy Patin; the contest waxed hot; accusations and epithets were showered upon him; he attacked the faculty; the faculty responded by an attack upon "Our Calumniator;" he lost case after case; his privileges, franchises were taken from him; he was directed to stop all charitable services; to close his Bureau of Information. But the Gazette continues, thanks to Mazarin; which publication, with occasional interruption, has continued until the present time. Renaudot, discouraged by disappointments and vicissitudes, not recognizing that his greatest claim to fame for all time would be the Gazette, died October 16, 1653. His real title to fame is in the Gazette, and the loyalty and zeal with which, in spite of all the cruel disappointments and withering vicissitudes that overwhelmed him, he maintained to the last the courage of his convictions, and his efforts to support them.

The names selected in the illustrations given are used for the purpose of making clear the proposition as it appears to my mind; that all that has been heretofore accomplished that is of real value in the service of truth and in the cause of humanity by men of medical training, has been brought about because of and by the efforts of men committed in their life and practice, to an indomitable spirit of freedom. We have come to the conclusion that the only influence that any man or body of men need to fear is that influence or interest that fears the truth. It is the truth, and the love of truth, that have given to mankind the measure of freedom it enjoys, and it is only by the maintenance of this zeal for the truth that continued progress may be made. We have reached the stage in the development of medical science, where, as in other arts and sciences, we stand upon the verge of greater victories over disease and suffering than ever before. It is impossible to believe that the active ferment in industrial, economic and political thought will outstrip the medical profession, and leave us stranded, lagging in the rear of human progress; but if we hope or expect to keep pace with the human advance that is rushing forward, now, at a rate never before known, we must not only maintain the freedom of the past, but we must enlarge it; we cannot expect to go forth conquering new fields unless we free ourselves from the shackles of old beliefs and customs. The profession of medicine exists for the sole purpose of curing disease and the prevention of human suffering. We are entitled as of right, by virtue of our high calling, and it is our duty and obligation to appropriate to ourselves all human knowledge for our province.

New fields extend before us in every direction. If instead of curing disease once established, we can prevent disease, so much the greater glory

in our service; so much richer is human life, not for others alone, but for ourselves as well. The joy of service shall be ours.

It has occurred to me to emphasize the fact, that our profession cannot be satisfied at this time merely by a review of past achievements, great as they are and worthy of our emulation. If we are to prevent disease as our chief mission, or as the most effective method of warfare upon this chief enemy of human progress, we must know the conditions, not merely the material, mechanical and social from which they result, but the primary conditions that lie still further back of the immediate conditions that result in disease. Does the slum, the sweatshop, the brothel, the tenement house, exist in our cities? We immediately know where lies the hotbed of many diseases. Do the conditions of labor in immense factories and overcrowded department stores confront us? We immediately know where some diseases rise. Are men and women forbidden by man-made laws and institutions, to live natural lives? We know where prostitution, and abortion thrive, and the diseases and suffering that are their sequel. Do we understand that economic and industrial institutions and their consequences are the result of political activity in behalf of special interests of any kind? We then know, at once, some of the sources of the disease and human suffering that are their inevitable consequence. If we are to prevent disease, we must trace it to its original germ and extirpate it there, before it shall have contaminated society, and invited the downfall of our social order.

Is there one of our brothers, struggling to serve humanity and sustain himself, under discouraging conditions, with inadequate facilities and meager resources, with more time perhaps for study than he has books to fill it with, while the whisper of policy, of ethics, with menace or promise is ever before him, to urge or stifle his voice, as to custom, practice, habit, institution or interest, bearing directly upon the health of individuals or of the community? Let him remember that the chains of modern slavery are not of steel; that if he would be free, he must be deaf to every call but that of duty; and that if he would serve humanity he must be free.

By the common consent of mankind, those entitled to the privileges of our profession bear the title, Doctor. That means, teacher. As we are teachers by name, we must be such by right, if we are to maintain and advance the dignity and the worth of our service to human progress.

It will have occurred to you all that the subject I have rashly ventured to discuss is one that requires for adequate treatment far more time than can possibly be allowed on this occasion, and that the materials available for its apt elucidation would fill volumes. Yet, unless we are to be satisfied with a mere catalogue of achievements, there is another branch of the topic to which no reference has been made; that is, our policy as a body of cultured scientists and patriotic citizens. If I



may trespass upon your indulgence, let me briefly allude to certain subjects that are taboo, both by custom and policy.

Something has been said with reference to the relation between the physician and public service, in the way of municipal, state or national sanitation. It is a matter of interest that the first action that ever originated between two separate States, in the United States Supreme Court, viz.: the case of the State of Missouri *vs.* the State of Illinois and the Sanitary District of Chicago, reported in 200 U. S. (Supreme), page 496, involving grave and far-reaching political principles and scientific problems of vast importance, was decided upon evidence furnished by two physicians, one a chemist, Dr. John H. Long; the other, a bacteriologist, Dr. Robert Zeit, both of the city of Chicago. I cite this case, and the distinguished services of these eminent gentlemen, as an illustration; and while the general subject of this case differs from that I have in mind the principle is identical. The services of these gentlemen were called by the State by reason of their pre-eminent knowledge of the subject. This is not a case of the blind leading the blind.

There is another range of subjects, which, as indicated, are taboo, of which the members of our profession are pre-eminently qualified to speak. In this discussion, I do not refer to these subjects for the purpose of influencing the individual action of any of my medical brothers; but to indicate that the time has come when the profession, as a body, should take ground as to their treatment. I refer, particularly, and as an example, to a Purity Propaganda; the liberty of conscience and of speech, with special reference to discussion of the sex problem as a social question. It is, of course, a truism, first demonstrated in medical practice, that the evils of one form of privileges are not to be corrected by evils flowing from some other form of privileges. The Infinite has planted in humanity, as part of its nature, certain appetites, desires and propensities. In a society in which man-made laws, crude, unenlightened or of consciously perverted legislation prevail, it results that men and women are unable to live natural lives; that is to say, in conformity with the fiat of the Infinite, the one or the other will be overcome, and evils will result. And where these evils exist (and let me ask where do they not exist?), the first step toward cure, say nothing of prevention, must be open and free discussion for the purpose of determining the primary cause.

Let us examine the terms of this problem. When we remember that in every land sufficiently civilized to keep vital statistics, or take a census, these records show, by every fact which has a bearing on the moral status of a people, by the records of insanity, suicide, abortion, divorce, infanticide, penology, dependent poverty and others, that the moral nature of man is deteriorating at a rate far more rapid than any increase in population or wealth; that is, that the strain of conflicting

systems is growing more severe; and further, that much the larger part of these departures from the normal spring from pure ignorance, it becomes apparent that cure or prevention can only be secured by the diffusion of special intelligence. Courts and legislatures now treat the victims of this ignorance as criminals, instead of victims of social disease. A study of the diseases peculiar to this problem gives most appalling results. If the question were simply of the consequences to the original victims, it might perhaps be wise to let them suffer the penalties of vice as a safeguard to the future. But no group of men is better aware than those who honor this presence, that the danger of silence and secrecy as to these conditions, is infinitely greater to the innocent members of society. With 80 per cent of the blindness of the new born, and 20 per cent of this terrible affliction from all cases due to impure infection; with the consequences of specific disease infecting the air of our streets and public vehicles, is it not time there was begun somewhere and by some source, a method of education as to these subjects, which will at least safeguard the innocent? Who can realize more fully the need for a propaganda in the direction of safety than the members of the medical profession? On whom then rests the responsibility for an organized effort to endow those who feel the call to perform so highly important a public service, with the privilege of performing it? It should go without saying that regard for the moral welfare of the community or for the innocent sufferers of venereal infection, compels a demand on behalf of the general public, for such freedom of press and other means of publicity, as will give to each the use of his right to learn and to know how terrible are the ravages of these diseases; how their presence may be detected; how they may be avoided or cured. If the only sin is ignorance, the only crime is fear.

Another suggestion is with reference to State or National legislation as to questions of health and sanitation. Much has been said in the past with reference to the abolition of state lines on the question of marriage and divorce. It occurs to me, without desiring to discuss the question, that there is far better reason to abolish state lines with reference to medical practice acts.

At the risk of being told to stick to my last, I am impelled to make a suggestion as to a field in which something at least remains to be accomplished. That is with reference to so-called expert testimony. Without intending to cast reflection upon a worthy body of men, I would ask if the time has not arrived when the medical profession occupies a place in public estimation approximating that of the lawyer? In the contemplation of many cases in which alienists, surgeons and physicians have respectively been called upon to elucidate facts by expert opinions, it appears to the layman as if it were possible to secure the most skilled, cultivated and authoritative scientific opinion upon any or all sides of

many questions of fact, involving the technical knowledge or skill of the medical faculty. "You pays your money, and you takes your choice." He or she is sane or insane; suffers or is free from every anatomical or physical disorder, from chillblains to housemaids' knee, the verdict being dependent entirely upon the amount you are willing to pay for an opinion, or who it is that first engages the expert. Of the three kinds of liars, viz.: Liars, Damned Liars and Expert Witnesses, the most dangerous if not the most numerous, are the last. In offering the suggestion of a remedy for this condition, less in the hope that any particular suggestion, than that some suggestion, shall be adopted, at the demand of the medical profession, which, if it can not restore, will at least prevent the further impairment of its ancient dignity, from this source, it is with high appreciation of the difficulties involved. In its origin, this class of testimony was intended as an aid to the court and subject to the call of the judge for his benefit, not as to the facts themselves, but as to the meaning of established facts. Might not there be established in every judicial district a board composed of one or more physicians, occupying an honorable public office, whose duty it shall be to enlighten the courts as to questions within the special knowledge of the faculty? I make no attempt to work out the details as to method of selection, compensation, tenure or otherwise, in connection with the suggestion, but that some step must be taken in this direction, should be evident to all medical men.

I would by no means be understood as giving a conclusive list of suggestions. It has been my purpose to illustrate a field that stands waiting our efforts. To accomplish results commensurate with many important needs, it is first necessary that our profession be able to influence public opinion. This can only be effectively accomplished by a coalescence of opinion and purpose. We owe it to society that we maintain the usefulness of our art at its highest efficiency, to the end that we may confirm our title to the respect of public opinion.

To each of us has come at times the insistent question of the meaning of life, the purpose of existence in a world so filled with suffering. If we accept the conclusion of intelligence and of plan and purpose in the universe, it must be clear that experience is a feature or instrument of this plan, whether as to individuals or states. In response to the vital principle, nations come into existence, and because of some failure to conform with the natural principles of social order, perish from the earth. The one lesson of all history is that human nature is the same wherever and under whatsoever conditions men exist. The law of social progress has been formulated as Association in Equality. Every organized society is based upon this principle, and in exact measure of conformity therewith, human progress has resulted and states and nations flourished. The passing of an empire simply means the failure



of its form of social order to meet the demand of human nature. With nations, as with individuals, experience is the mother of wisdom and the course of human progression towards its ultimate, is marked, in successive stages, by the elimination of principles and institutions that have been fatal to social order in former experiments.

It will universally be found that this fatal principle lies in institutions which permit departures from or violations of that equality, association in which is the law of human progress. Inequalities, except as they permit of exploitation, may be disregarded. In its last analysis, the only cause of the death of any special social order has always lain in the fact that its institutions permitted groups or sections of its population to appropriate the fruits of the industry of other groups.

I refer to this, because, as I believe, the principles here expressed have a bearing upon the future of the medical profession, and its usefulness to society.

In the natural order of evolutionary processes, the principle of synthesis has its due and ordered time and place. In America, this time is now. The concentration of productive energies has triumphantly demonstrated its economy. There is, however, danger of confusion as to the subjects to which this principle may safely be applied. In the manufacture of material things, combination may safely be encouraged and extended to the uttermost, as economies in production and distribution are its natural results. Intellectual truth, however, cannot be syndicated or monopolized. The practice of medicine can not be improved by a trust. "Hand me down" methods, theories, or dictatorial advice cannot aid the intelligent, independent practitioner. Kindly suggestions and the plain, unprejudiced statements of the results of personal, clinical experience are valuable and are welcomed by all liberal and progressive physicians. But the *ipse dixit* "this is so" of the doctrinaire, the pharmacist, the pharmacologist, or the medical editor can but engender discord and retard true medical progress. The time has passed when a few men can successfully set themselves up as authorities, or dictators, or arrogate to themselves any special theory or precedence. Candid practitioners today recognize good in all systems based upon scientific thought and pursued with intelligence and sincerity. By means of release from the shibboleths of the past, and adherence to a given "authority" or "school" the freedom of present practice is greatly enhanced, to the immense benefit of the patient and the lasting honor of the physician.

In science there is no burden of proof; neither can medical education and training fulfill its highest mission under the "factory system." Let me say that it is doubtful if every successful practitioner in the history of our profession has not at times resorted to the primitive methods of the voodoo and the witch. One would be shocked, at first impres-

sion, to be told that he had employed such methods; but in the last analysis, what is mental suggestion or the administration of placebos; and who has not employed them? Remembering the function of our profession, to be the prevention and cure of disease, and the relief of suffering; and remembering that no two cases of disease in the whole history of the medical profession presented identical conditions, it is monstrous for any man or set of men to forbid the use of any method, any instrument or remedy, or any treatment which in the opinion of the attending physician promises success.

I repeat, it is an insult to our independence and intelligence that we are not allowed to read any book or medical journal we please, at any time or place, whether in a medical society or in the seclusion of our offices, to use any remedy we please whether it be so-called "regular," "homeopathic," "eclectic," "alkaloidal" or "proprietary," or any method of treatment whatsoever, even though it smack of Christian Science or osteopathy, without being subjected to public ridicule and criticism by a few self-appointed "authorities" and "leaders" in medicine.

In the medical profession, as in religion or science, the perils of dominating influence can not be escaped. While the evils flowing from industrial concentration can be met, the evils that must follow the syndication of intelligence can not be avoided. As stated before, the struggle of the ages has been the emancipation of truth from authority. No thoughtful physician can fail to see the immense advantage of a liberal mind in the pursuit of his calling. It is of signal importance that the doctor should not only welcome every advancement in medicine, but he should at all times be willing to put the broadest construction upon opinions conflicting with his own. Every physician having the interest of his profession, and of humanity, at heart, should admit candidly the value of any method, theory or practice which may promote the common object of alleviating human misery, taking the generous view of things, without which the pursuit of learning is but a jaundiced, melancholy affair.

Fortunate it is for him who has learned the charity and liberality which characterize all genuinely great or progressive men in every profession. His open heart and intellect are spared many a regret, and throughout his career for him the sun of truth is shining everywhere.

If we find our pathways obscured by shadows, it is because we are walking away from the light and not towards it. The sacred flame that glows upon the altar of truth illuminates and cheers only as we approach it.

If we wish to progress and influence humankind in the right direction, each of us should be modest in the presence of nature, fearless in the

face of authority, unwearying in the pursuit of and absolutely free to seek the truth in our own way.

“Freedom’s secret wilt thou know?  
Counsel not with flesh and blood;  
Loiter not for cloak or food;  
Right thou feelest, rush to do.”

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### A PLEA FOR THE CROSS-EYED CHILD.

BY JOHN GREEN, JR., M. D., St. Louis, Mo.

Why is it necessary to enter a plea for the cross-eyed child? It is because, in my experience, and, I dare say, in the experience of my colleagues in ophthalmology, the cross-eyed child is denied a “square deal.” As a direct result of improper advice given the parent the child is permitted to continue indefinitely bearing a serious deformity, resulting finally in partial or almost total loss of vision in the crossing eye. It is seldom indeed that the oculist is given the opportunity of proffering his skill to the unfortunate little one until some years have elapsed from the time the squint was first observed—years of priceless value if properly employed for the child’s ocular welfare, but alas, how frequently allowed to slip by, with no effort made to remedy the defect.

Whence arises this deplorable state of affairs? Surely not with the child and only indirectly with the parent. The young mother with the few months’ old babe in her arms is alarmed to see the little one’s eyes turning in, perhaps momentarily, perhaps for several minutes at a time. As is well known, the motor co-ordination of the ocular muscles are at first somewhat imperfect, and hence a transient strabismus is rather the rule than the exception in young infants. When appealed to by the anxious mother the family physician is able to give the assurance that “all will come right in time”—a prophecy almost invariably fulfilled.

After the child has passed the earliest period of infancy, has attained perhaps the age of one to five years, the mother will perhaps notice that at times one eye or the other does decidedly turn toward the nose. At first the squint is periodic and of short duration—followed by intervals during which the eyes appear entirely straight. The mother recalling the doctor’s early advice naturally believes it again applicable, and confidently awaits the time when the eyes shall again be straight. A few months later she is disturbed to find that the squint which was at first noticeable only when the child was sick or fatigued from play, has become permanent. The crossing may be wholly confined to one eye, the other remaining straight (monolateral squint) or the crossing may alternate, shifting from one eye to the other, and constituting the so-called alter-



nating squint. It is at this stage that the family physician is again appealed to. Upon his advice will depend the future ocular welfare of the little one. It will be well if he realizes the weighty responsibility resting upon him and justly endeavors to frame an answer in consonance with our knowledge of this affection.

I can readily see how the physician who daily encounters the stern realities of the battle of life with death should regard a pair of cross-eyes as a trivial ailment, too insignificant for his serious consideration. That it is of vital significance to the afflicted child I hope to be able to show you shortly.

The oculist rarely sees the squinting child when the squint first manifests itself. Almost always there is history of neglect, of delay, for several years. Why is this so? I have made careful inquiry in all cases that have come under my observation during the past six years and the conviction has been borne in upon me with ever increasing intensity that the advice given by the family physician has been largely instrumental in depriving the child of the opportunity of getting a full measure of relief. Now, what is the tale that the parent unfolds to the oculist? It is something like this: "Yes, doctor, little Johnny began to be cross-eyed right after he had the measles and we laid it to that. We took him to our family doctor and he said: Well, don't bother about that. The eyes will become straight of themselves after a while." The advice varies: "Yes, the child is cross-eyed and he will have to have glasses, but they can't be fitted to him until he is a good deal older." Or "nothing can be done at present. When he is fifteen years old one of the eye muscles will have to be cut, that will straighten his eyes." Sometimes the assumption is that the external rectus muscle is paralyzed and that internal treatment is indicated. Whatever form the advice takes it leads to an identical result. The mother, assured that some time in the future "something can be done," does not pay any more attention to the matter, and the golden time which should be occupied in intelligent and unremitting treatment of the eyes is frittered away in total neglect.

Now, I do not hesitate to affirm that any such advice as detailed above is absolutely pernicious. Surely if the family physician were at pains to understand the etiology of convergent squint, he would never be guilty of uttering opinions so entirely at variance with our knowledge of this affection. The earlier view that convergent squint was essentially of muscular origin, in other words that it depended upon shortening of the internal recti, faulty insertion of their tendons or paralysis of the external recti, has been thoroughly disproved. Those facts which definitely indicate that the muscles are not primarily at fault are the following: (First) the power of the outward rotation of the squinting eye is perfect or nearly so; (second) a squint frequently disappears during general anaesthesia; (third) a high degree of convergence may disappear

when the accommodation is paralyzed by atropin and will reappear when the effect of atropin wears off.

The great Dutch ophthalmologist, Donders, propounded the view that hypermetropia was the fundamental cause of squint. He was led to this conclusion by the following considerations: When the gaze is transferred from a distant to a near object the eyes "focus" or "accommodate" so as to bring the image of the object sharply upon the retina. This focusing or accommodating power is accompanied by a convergence of the visual axes which are then directed exactly to the object viewed. The functions of accommodation and convergence are thus associated, although their association is somewhat elastic. Normal sighted or emmetropic eyes when looking at a distant object are eyes "at rest," and do not require any focusing in order to see clearly. When such eyes look at an object only twelve inches away they accommodate or focus to a distance of twelve inches, and converge just sufficiently to permit their visual axes intersecting at the object. The nervous impulse required to focus the eyes at twelve inches is just sufficient to converge their visual axes to intersect at this point. Far sighted or hypermetropic eyes when looking at distant objects are not "at rest," and require a certain amount of focusing power in order to see clearly. When such eyes look at an object only twelve inches away, the amount of accommodative effort is equal to the amount required for emmetropic eyes plus the amount which has already been brought into use for the distant object. There is, therefore, an excessive accommodative power required which implies a greater nervous impulse. Now the function of convergence receiving the additional nervous stimulus is made to act too strongly and there is a tendency for the visual axes to converge to a point nearer than twelve inches. Donders assumed therefore, that hypermetropia was at the root of the evil, was, in fact, the fundamental cause of squint.

The theory of Donders was unquestionably a great step in advance, but failed to account for many of the observed facts.

It is known that the vast majority of children are hypermetropic and yet very few squint. Again, that high degrees of hypermetropia do not tend to cause squint, and lastly that the degree of refractive error has very little to do with the question whether the patient shall or shall not squint in the first instance. It remained for Claude Worth, an English ophthalmologist, to supplement the work of Donders and to point out that the essential, the fundamental cause of convergent squint lay in a defect in the "fusion faculty." Now what is the fusion faculty? It is that faculty which enables us to blend mentally the images received on the retinae of the two eyes. Worth's investigations indicate that the fusion faculty is absent at birth, the normal positions of the eye being maintained at first by the motor co-ordination. As early as the sixth month there is evidence of vision with the two eyes, or binocular vision.

The faculty is complete before the end of the sixth year. Worth states that when the fusion faculty is well developed "nothing but an actual muscular paralysis can cause an eye to deviate." He states further that in some cases "owing to a congenital defect, the fusion faculty develops later than it should, or it develops very imperfectly, or it may never develop at all." In such cases anything which disturbs the balance of the motor co-ordinations will cause squint, and such disturbances, in the order of their importance, are (1) hypermetropia; (2) unequal refraction in the two eyes; (3) congenital amblyopia; (4) a tendency of one of the eyes to turn up or in; (5) specific fevers; (6) convulsions or severe fright; (7) hereditary influence.

In brief, a child begins to squint because, in the first instance its fusion faculty is poorly developed or entirely absent. Contributing to this end are the various causes enumerated above. Let us consider now what the conditions are at the *very beginning* of a case of concomitant convergent squint. The eye which turns in possesses, in the majority of cases, almost as good vision as the eye which is straight. It is only in the rare cases of congenital defective sight, or amblyopia, which recent investigations have shown to be due to hemorrhages into the retina at birth, that the defective vision has an anatomic basis. At this stage, if the squinting eye is forced into use, it will speedily regain the vision which it has begun to lose. If, however, the child is neglected, the vision of the squinting eye grows progressively worse, and may become in time so blind that the child is hardly able to count fingers when held a foot in front of the eye. When this stage has been reached it is usually too late to force the eye to take up its function again, and it has become blind or amblyopic from disuse. It may safely be affirmed, that only in those cases in which the educative treatment of the squinting eye is begun very shortly after the onset of the squint, will it be possible to bring about a complete restoration of vision. From this point of view alone it is absolutely essential that there be no delay in instituting treatment. Furthermore, the sooner the training to develop the sense of fusion is begun, the better chance will the child have of acquiring full binocular vision.

How soon after the squint is observed should treatment be begun? *Just as soon as possible.* To quote Worth again, "In the case of a young child with a constant monolateral squint, the results of this disuse of the deviating eye is that its visual acuity gradually deteriorates." This deterioration from disuse is more rapid the younger the child. "A child with good vision in each eye who develops a constant monolateral squint at the age of six or eight months will in the absence of proper treatment become rapidly blind in the squinting eye. The loss of vision in the deviating eye is so rapid that the power of central fixation is often lost



within eight or ten weeks." In an older child developing squint, the loss of vision is less rapid but none the less certain.

It is not my purpose to dwell on the treatment of squint. Suffice it to say that there are five therapeutic indications: First, to correct as accurately as possible any refractive error; second, to occlude the fixing eye, thereby forcing into use the deviating eye; third (for the same purpose), to instill atropin into the fixing eye only; fourth, to train the fusion sense, and fifth, operation. A very widely held belief is that a child under four or five years cannot wear glasses. This is entirely erroneous. Worth records instances of infants under twelve months wearing correcting lenses with great satisfaction. At present I have under observation an eighteen months old child who came to me with a constant monolateral squint, who is wearing strong plus spherical lenses with apparent entire satisfaction.

It is only in cases where treatment has been possible from the very earliest period of the squint that a true cure can be accomplished. By "cure" I mean, not simply that the crossing eye shall be straight, but that the following additional conditions shall be fulfilled: First, that the formerly squinting eye shall have nearly or quite as good vision as the fixing eye; second, that the fusion faculty shall have been developed to the point of maintaining the highest degree of binocular vision. How very seldom this ideal result is attained, I am sure all ophthalmic surgeons will testify. Many a pair of cross eyes are made straight by glasses or operation, and this removal of the deformity may seem all sufficient to the unthinking. However, when we recall that in such cases the eyes have no ability to work together, and that one of these straightened eyes possesses only sight enough to count fingers held close to the face—is in fact to all intents and purposes a blind eye—our feelings of elation are somewhat dampened. Nor does it dispel our gloom to realize that all this might have been obviated, had the family physician properly understood his responsibility when advice was first sought.

The following cases illustrate types of strabismus as they present themselves to the oculist:

E. C. R., age six years. Father states that child's right eye has been noticed to cross slightly for about a year. There is a constant monolateral squint of about twenty degrees. In the right eye the vision is slightly below normal, in the left eye normal. Fusion sense present, but defective. After wearing glasses for compound hypermetropic astigmatism for six weeks the eyes were found to be entirely straight, and the vision of the right eye had again become normal. Training of the fusion sense was begun. At the end of three months the eyes are perfectly straight, the vision of each eye is normal and the child has full binocular vision.

M. A. M., age nine, had diphtheria five months ago, followed by slight turning in of the left eye with the complaint of double vision. Double vision disappeared in a week. (Evidently at that time a paresis of the left external rectus.) The mother states that for the past two months the right eye has turned in slightly. Examination shows the right eye convergent 15 degrees, and vision in this eye reduced to one-fourth of normal. The appropriate glasses (plus spherical) were at once prescribed, and the right eye forced to come back into use by placing a black screen in front of the left glass. Within a month the right eye had regained almost all the lost vision and the left eye was crossing slightly behind the screen. Fusion training was begun at once and in a few weeks the child had developed full binocular vision. The eyes are now perfectly straight but vision in the right eye is still a little below normal.

D. E. H., age six years. Child's left eye has been crossing since the age of one year. Entirely neglected. Convergent squint about 25 degrees. Vision in the squinting eye reduced to one-sixth of normal. Appropriate glasses brought the eyes straight after a time, but no improvement took place in the vision of the left eye. This is a case where unquestionably the prolonged delay was responsible for the development of the partial blindness in the squinting eye.

G. B. S., age four. The right eye is said to have squinted since the age of nine months. A year ago he was taken to the family doctor, who said that the child was too young for treatment. He has therefore received none. In this case the appropriate glasses brought the eyes entirely straight, but the eye that had squinted is now only able to count fingers at two feet.

E. M., age eight years. This little girl has an alternating squint of four years' duration. There is no difference in the visual acuity of the two eyes and she fixes with either as well. All tests indicate a complete absence of the fusion faculty. Glasses appropriate to her refractive condition (low hypermetropia) diminish the degree of squint slightly, but do not abolish it. She will have to be operated upon eventually to bring the eyes straight.

The following case illustrates conditions after fifteen years of neglect:

R. M., age 20, has cross eyes since earliest years. She has worn glasses at times but for years at a time has been without them. Visual acuity in the squinting eye is reduced to counting fingers at two feet. A prolonged trial of glasses fully correcting her refractive error did not in any way influence the position or vision of the left eye. A tenotomy of the internus combined with advancement of the externus produced a first-class cosmetic result but of course had no effect on the vision of the squinting eye.

The last case which I wish to report illustrates in a striking manner how a life may be wrecked by neglect to appreciate the needs of a child with cross-eyes.

A. L., age 24 years. Left eye began to squint when he was four years old. He was entirely neglected and never consulted an oculist. Vision in right eye was good. Five months before coming under observation, while in an iron foundry, he received a splinter of steel in the right eye. The eye became infected and despite the efforts of a competent oculist was lost. The poor fellow was horrified to find that he was practically blind, the squinting eye having vision only sufficient to enable him to count fingers at three feet. A year later he committed suicide.

To recapitulate: Concomitant convergent squint can be definitely and completely cured only when managed from its earliest beginnings. Mere straightening of cross-eyes, after delay has permitted the development of amblyopia from disuse, falls short of an ideal therapeutic result. It is, therefore, the imperative duty of the physician whose advice is first sought to point out to the parent the disastrous results of neglect and delay and to insist strongly that treatment be instituted at once.

Metropolitan Building, Grand and Olive.

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## THE USE AND ABUSE OF THE MICROSCOPE IN GENERAL PRACTICE.\*

BY ALBERT E. TAUSSIG, M. D., St. Louis, Mo.

When, not very many years ago, laboratory methods came into general use in the diagnosis of internal diseases, their practical value was regarded somewhat skeptically by a majority of the older practitioners. Soon, however, their usefulness became generally recognized and it was not long before the pendulum began to swing to the other extreme. Continually greater dependence was placed, in diagnosis, upon the laboratory findings, and laboratory workers took it upon themselves more and more to make positive diagnoses upon the results of their findings alone. Thus it became customary to pronounce a disease typhoid merely because of a positive Widal reaction, or diphtheria merely from the results of a culture from the throat. We forgot that the Widal reaction, positive or negative, is not always absolutely pathognomonic, and that there are other bacilli that morphologically and culturally closely resemble the Klebs-Loeffler bacillus. It even happened that municipal bacteriologists reported a case to the sanitary authorities as diphtheria and had the patient's house placarded without waiting for the report of the attending physician, and cases occurred in which this was done when the case clinically was clearly not one of diphtheria.

While thus the laboratory findings should be used critically, not slavishly, it is nevertheless true that they have become indispensable to ac-

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\*Read before the St. Louis County Medical Society, Aug. 14, 1907.



curate diagnosis, and that a microscope at least must have a place in every physician's armamentarium. If we are better diagnosticians than the men of fifty years ago it is not at all because we are more careful observers than they, for we are not. Nor is it entirely on account of advances in physical diagnosis, important as these are. It is primarily because we have at our disposal instruments of precision, and of these the microscope is unquestionably the most valuable.

It may be of interest to take up very briefly a few of the most important conditions in which the microscope is indispensable to the physician. The microscopic examination of the sputum is of service in a great variety of respiratory affections, particularly of course in tuberculosis. The presence in the sputum of tubercle bacilli needless to say is conclusive of tuberculosis somewhere in the respiratory tract, not however necessarily in the lungs. But the possession of this pathognomonic sign tends to make us neglectful of other microscopic methods of great value, such as the study of unstained sputum, the search for elastic tissue, and the like. Moreover I think it is a fact that, trusting to our microscope, many of use are less careful and subtle in our physical examination of the chest than our predecessors of the time antedating Koch's discovery. We are apt to forget that it is in the period preceding the appearance in the sputum of tubercle bacilli that the diagnosis of phthisis is of most value to our patient, for it is then that proper hygiene will most certainly effect a cure.

I need say nothing about the diagnostic importance of the microscopic examination of urinary sediments. But far from taking the place of careful clinical observation, such examinations merely give us additional data for making our diagnosis. Casts do not necessarily mean nephritis, nor their absence healthy kidneys. I remember being called to see a young man whose urine, previously examined, had been normal. He was suffering from extremely severe urticaria, and his urine during the attack contained much albumen and multitudes of casts of all sorts, hyalin, granular and epithelial. Two days later, the urticaria had disappeared and the urine was free from albumen and casts. It is hard to conceive of a true nephritis lasting only forty-eight hours. On the other hand we have all seen cases of chronic nephritis in which the urine from time to time seemed perfectly normal. As a result of the comparison of the urinalysis with the post-mortem findings in the Massachusetts General Hospital, Cabot concludes that neither the presence of albumen nor of casts is of fundamental importance in the diagnosis of nephritis. This skepticism may be exaggerated, but I believe it is a fact that the urinary findings are rarely pathognomonic of nephritis. They merely furnish us additional data, which taken in connection with the history and the physical examination of the patient, enable us to come to a conclusion.

If we need to be warned against relying too much upon the sputum and urine work, it is true on the other hand that the routine microscopic examination of the stool suffers from unwarranted neglect. Time will not permit even the briefest summary of the conditions in which a study of the stool is of importance, but I think it may be said that the more regularly we make routine stool examinations the less frequently shall we be puzzled by obscure intestinal affections. Occasionally the nature of some obstinate bowel trouble will be cleared up by the discovery of an intestinal parasite responsible for the condition, and the finding of pus, blood, mucus or fat as well as the degree of digestion of the various food elements, will often be indispensable for correct diagnosis. As in all microscopic work, the proper interpretation of the results of stool examination presupposes a thorough familiarity with the microscopic appearance of the constituents of normal as well as of pathologic stools, but in spite of the amount of rather disagreeable work involved, the diagnostic results obtained are well worth the time and labor expended.

Nothing in clinical microscopy is of more interest or value than blood work. Here, too, however, the overvaluation of the microscopic findings may be hardly less disastrous than their undervaluation. The radical differences of opinion one finds in regard to the value of leucocyte counts in appendicitis are based upon a false notion of the significance of this diagnostic method. An appendix on the point of perforating or already gangrenous, may produce little or no leucocytosis, whereas an infection so mild as not to require operation may be accompanied by a high leucocyte count. As Emerson well puts it, a single leucocyte count in surgical affections is of no more significance than one temperature determination. It is the course of the leucocytosis that counts. A steadily increasing leucocytosis usually means a progressive infection, and a decreasing count one that is yielding. This is well illustrated by the following case of typhoid perforation. The patient, a woman 27 years old, was in the fourth week of a severe typhoid fever, with high temperature, unusually rapid pulse and respiration, marked meteorism, some abdominal tenderness, alternating stupor and delirium. On August 8th she was awakened about 4 A. M. by violent abdominal pain. This lasted a few hours and was replaced by a general feeling of soreness over the entire abdomen. During the day the condition did not change essentially; the temperature, which had ranged about 104 degrees, falling to 100 degrees, and the pulse, which had risen to 140, early in the morning falling to 120. The abdominal distension, which had been marked throughout the illness, increased somewhat until the liver dullness was obliterated and the apex beat was felt in the 4th interspace. There was some diffuse abdominal tenderness but no spasm of the muscles. Next morning the patient was much weaker; her face had an anxious expression and there was a trace of abdominal muscle-spasm.

The leucocyte count during these twenty-four hours was as follows: 11 A. M., 5200; 2:45 P. M., 6000; 6:45 P. M., 7200; 7 A. M., 8400. At 10 A. M. the abdomen was opened under infiltration anesthesia and a perforation about the size of a pin's head found in the lower ileum. In this case, the typical signs of perforation were wanting and the decision to operate was based upon the history of pain, the more or less vague physical signs and the steadily increasing leucocyte count. The fact that there was at no time a leucocytosis as compared with normal blood was evidently due to the typhoid leucopenia. Any single leucocyte count would have lead to a false conclusion.

In appendicitis, the clinical observation of the patient is unquestionably of far greater significance than the leucocyte count, so that many surgeons find themselves quite able to dispense with the latter. Where the condition is obscure however, I am sure that the microscope has its value, in that it furnishes us with one more factor in estimating the patient's condition. Leucocyte counting, while simple enough in the hospital or the office, is not always convenient in private bedside practice. The study of the stained specimen can usually take its place. A skillfully made spread gives a very accurate notion of the degree of leucocytosis and a differential count furnishes still further information. Indeed of either of the two methods alone there is always more to be learned from the stained spread than from a blood count.

In internal medicine, blood work is far more important than in surgery. Of border line cases I remember one that was not without interest. A woman, some days after labor, began to run a temperature that decidedly suggested sepsis. The leucocyte count however, instead of being high, was only 4000. This suggested typhoid, and, while the Widal test was negative, a bacteriologic examination of the venous blood made next day, demonstrated the presence of typhoid bacilli. Here the microscopic examination alone made the diagnosis possible, and not only relieved the physician and the patient's family from a load of uneasiness, but possibly saved the patient from operative interference. In a multitude of diseases, the diagnosis, or at least the early diagnosis, is often impossible without the study of the stained spread. I need only mention the leucopenia and the mononuclear excess in typhoid, the eosinophilia of trichinosis, the presence of the spirochæte in relapsing fever, the blood picture of leukemia and of pernicious anemia. There can be no question that the last disease is often overlooked. Typical cases are readily diagnosed, but chronic cases are not rare in which the anemia plays a very secondary role. These may present the clinical picture of amaurosis, peripheral neuritis, tabes dorsalis or epilepsy. Where the psychic disturbances are outspoken the patient may be sent to an asylum for the insane. Gastro-intestinal disturbances may occupy the foreground of the symptomatology and cancer of the stomach may be



closely simulated. The diagnosis can always be made by means of repeated and careful study of the blood and by this means alone.

Malaria can usually be recognized without the use of the microscope, but in atypical cases many a false diagnosis will result. This is especially the case where some other disease simulates malaria. How many cases of incipient phthisis are dosed with quinine, arsenic and the like while the most favorable moment for a cure by means of hygiene is slipping by. To be sure this sort of thing is steadily becoming more infrequent. Some ten years ago it was my good fortune to see a case of interest in a somewhat different direction. A young man from the Mississippi bottoms came to town with a typical history of chronic malaria. While here he continued to have chills and fever, sometimes at irregular intervals, but usually every other day. The spleen was about the size and consistency of a typhoid ague-cake. He was successively in the hands of some of our best physicians, was always told he had malaria and indeed usually improved temporarily under quinine or arsenic. Finally he came to see Dr. Fischel who asked me to search for the plasmodia. It required only a glance at the blood to establish the diagnosis of myelogenous leucemia. Unfortunately at that time, the correct diagnosis was of little service to the patient. Now, however, by means of the X-ray we might well hope in such a case to effect if not a cure, at least a period of apparent recovery lasting six months or a year.

It is then clear that the microscope is often indispensable for accurate diagnosis. But it is far from being the most valuable portion of the physician's equipment. First in importance comes the power of careful clinical observation and ripe judgment in the interpretation of signs and symptoms. Then comes the habit of careful and complete physical examination. It must not be forgotten that the stethoscope is a far more valuable diagnostic implement than the microscope. But since the pathognomonic sign is rare in medicine, our diagnosis usually must be made on the principle of cumulative evidence. We must weigh carefully each bit of information obtainable pro and con, and decide in the direction toward which the bulk of evidence tends. The greater the mass of testimony obtainable the more apt is our final judgment to be correct. The importance of the laboratory methods lies in that they furnish us with additional and independent evidence, which carefully and critically weighed will often be of great importance in inclining our judgment in the right direction. It follows too, that each practitioner should, so far as possible, be his own microscopist. He alone can estimate with what care and frequency it is worth while making microscopic examinations in any specific case. And certainly he alone must be the judge of the diagnostic value, in any case, of microscopic findings. Even where the examinations to be made demand special training or equipment and must therefore be referred to another, the practitioner should demand of the

laboratory worker merely a statement of the actual findings and should reserve their interpretation and the estimation of their diagnostic significance to himself. .

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## PRACTICE OF MEDICINE AND SURGERY IN THE RUSSO-JAPANESE WAR.\*

BY MAJOR CHARLES LYNCH, U. S. A.

The practice of medicine on the Japanese side in the recent war requires but few words of discussion. The contagious diseases encountered have already been described at length under their sanitary aspect, and the methods for the treatment of these, and of pneumonia, rheumatism, and bronchitis, which were frequently seen, do not differ materially from ours. Their constant and intelligent use of the microscope for diagnosis, even well up to the front in the field, is to be commended. Japanese physicians generally are much better instructed in this particular than they are on methods of physical examination. In the latter they are neither very apt, nor accurate in reaching conclusions. The Japanese are peculiarly prone to allow patients with serious illness to assume a sitting position, and I cannot but think that this was a dangerous practice, particularly so as many of these men had bad hearts from beriberi. In all the Japanese hospitals, except the most advanced, separate rooms are provided for the very ill. Without their large personnel this would be impracticable, though it would always, as with them, be much better for the patients. The percentage of deaths from both dysentery and typhoid was rather high, between 7 per cent and 9 per cent in the former and from 15 to 16 per cent in the latter. The Japanese ascribe this to the fact that many of these patients had beriberi and so weak hearts.

No scurvy was seen in the Japanese army except among some prisoners who had been confined at Port Arthur by the Russians. At this fortress hundreds of cases of this disease in the Russian garrison were under treatment at the time of my visit there. On account of their poor ration, scurvy is not particularly uncommon in the Russian army, even in peace. It was rather surprising to learn how soon a great deal of scurvy began to appear among the Russians at Port Arthur; according to the best obtainable information, scurvy was common even as early as May, 1904. Anticipating a long siege, the Russian authorities cut down their rations notably soon after Port Arthur was surrounded. It was the general opinion among the Russian surgeons there that the food supplies available could have been much better utilized. For example, nearly 2,000 horses were captured when Fort Arthur surrendered, which, if they had been killed and issued as a part of the ration, would have been of

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\*Excerpts from a War Department report on Military Observations during the Russo-Japanese war, which seem of particular interest, as they deal with the medical side of the question in a way much different from the first reports we received.

much service in preserving the health of the soldiers. Russian officers were apparently sufficiently well fed during the siege; at least, not a single case of scurvy was seen in them. Probably no opportunity for the study of scurvy for years to come will approach that given at Port Arthur. All classes of this disease could be seen there—hemorrhages into the skin, hemorrhages into the conjunctiva, effusions into the knee joints, and even separation of the ribs from their cartilages. In nearly all cases, as soon as patients obtained good food in sufficient quantities they rapidly recovered. So far as can be learned, the scurvy in Russian troops was due more to a nitrogenous starvation than to general deficiency in the food supply.

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Some of the surgical problems met with in the war are of great interest. Practically all wounds were caused by rifle bullets, shrapnel or shell, explosives, swords and bayonets.

There is considerable difference between the Russian and the Japanese rifles. The former has a caliber of 7.6 millimeters; its cartridge weighs 24 grams. The bullet weighs 14 grams and has a jacket of cupro-nickel. Its initial velocity is 2,015 feet per second. The Japanese rifle is 6.50 millimeters in caliber; the cartridge weighs 22 grams; the charge is 2.10 grams of smokeless powder. The bullet, which weighs  $11\frac{1}{2}$  grams, is 32 millimeters long and is made of hard lead, with a German silver jacket. The initial velocity is 2,356 feet per second.

The different initial velocity, etc., of the Japanese, as compared with the Russian rifle bullet, was not found of great importance, so far as the effects produced by it on the tissues of men hit were concerned, though it is possible that more Russian bullets lodged. The difference in caliber of the two rifles was responsible, however, for very great differences in the wounds caused by them. The wounds due to the Russian bullets were always of a much more severe character. While from the surgical standpoint the extremely small caliber of the Japanese rifle is desirable, it is a great question if they have not carried their desire for long range, flat trajectory, and light weight of cartridge too far, and have thus sacrificed the stopping power of the bullet to such an extent that their weapon does not yield the best results in war. Certainly, a man hit with the Japanese bullet will come on when it has passed through his body anywhere, except at a vital point. The wound of entrance of the Russian bullet was naturally of larger size than that of the Japanese, as was also the wound of exit. The greater destructive effect of the former was, however, most manifest when bone tissue was struck in its course through the body. Bone was almost always extensively comminuted, and the wound of exit caused by the bullet after passage through bone was large. In the winter, at least, many rifle bullets, the Russian more than the Japanese, were deformed by striking hard ground



or frozen walls, and wounds produced by such bullets were of course always destructive to both soft and bony tissue on account of the large wounding surface of the missile. Shrapnel bullet wounds were also always of a severe character, both on account of the large size of the shrapnel bullet and because of the material of which it was made—soft lead, which is so liable to deformation. Wounds produced by pieces of shell were even more severe, and frightful injuries were caused by hand grenades. With the last, tissues were so lacerated and torn generally that amputation of injured limbs was almost invariably required. Foreign bodies were not frequently carried into wounds by the Japanese undeformed bullets, and were still more rare with the Russian undeformed bullets. With both deformed they were not uncommon. The shrapnel ball also frequently drove foreign material from the men's clothing into wounds. Fragments of shell sometimes did so, but often tore their way through, carrying everything in their path before them. With hand grenades not only were particles of clothing sometimes carried into wounds by fragments, but stones and dirt were frequently driven in by the explosion.

Whether suppuration occurs in a wound produced by a missile is, of course, dependent both on the character of the missile and also on the subsequent care which the wound receives. My opinion on the efficiency of the means employed in the war to prevent suppuration will soon be expressed, but just at this time only the exact results attained will be recorded. The Japanese surgeons state that, with undeformed Russian bullet-wounds, not more than 20 per cent of wounds of soft parts suppurred; but, from personal experience, it is believed that the figure is much too low and that it should be at least 60 per cent. So far as suppuration was concerned, wounds produced by the Japanese bullet were much less liable to it than were those by the Russian. This was more noticeable when such wounds involved bone as well as soft parts. A number of bone wounds caused by the Japanese bullet were seen, which healed kindly, that must inevitably have suppurred if they had been due to the Russian bullet. In fact practically all bullet wounds involving bone, caused by the Russian bullet, suppurred, while many produced by the Japanese did not do so. The character of wounds produced by most deformed bullets, by shrapnel, pieces of shell, and hand grenades, was such that they almost invariably suppurred. Those due to the first named were less liable to do so, shrapnel wounds somewhat more so, and wounds caused by fragments of shell or hand grenades never escaped suppuration.

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Japan may be said to be yet in the pre-surgical stage of her development—that is to say, she has not reached a realization of the beneficent effects of good surgery, and in civil life surgery is a last resort, some-

what as it was with us in pre-antiseptic days. This has resulted in little specialization in surgery, and while many men may be found who have done good work in bacteriology and pathology abroad, few surgeons with foreign instruction are met. This does not apply to surgery of the eye, for which there is apparently great demand in Japan, and in which a number of physicians have specialized and do good work. In general surgery the Japanese invariably adopted the easiest methods mechanically, such as circular amputation, and though perhaps the best organizers in the world in many respects, they did not organize their operating-room staffs, so that much confusion resulted from lack of specialization of duties. The surgeons, too, are apparently rather limited in their methods of surgical treatment. For example, iodoform is universally used for all dressings. They believe, it is true, in antiseptic rather than aseptic methods for war surgery, and they are probably absolutely right in this as a matter of principle, but they pursue routine methods too closely. Army surgeons in any country are naturally in great measure dependent on the general surgical teaching of the country in question. This is quite true in Japan, and the reason that army medical officers are not competent surgical practitioners is not because their teaching and experience are inferior to those of civilian surgeons, but because good surgery has not been imported nor developed in Japan. As a matter of fact, Japanese army medical officers, as a class, are probably better surgeons than are the civilian doctors of that country, as, with the former, war gives surgical opportunities of relative importance, just as it formerly did with us.

My opportunities for the study of surgery, as practiced by the Russians, were fairly good at both Port Arthur and Mukden. Though these did not compare favorably, of course, either in duration or thoroughness, with similar opportunities with the Japanese, it is believed they were sufficient to form just conclusions on the work of the Russians in this line. The Russian surgeons, as is well known, were picked from here, there and everywhere in the Russian Empire. Some of them were surgical specialists, but others were obstetricians, general practitioners, ophthalmologists, etc., and not a few were medical students. The relative surgical ability of these different classes varied very widely, quite in contrast to the Japanese, who were all from the same mold. Speaking generally, there is no doubt but that the Japanese surgeons were superior to the Russians, even with their deficiencies, which have already been discussed. What is needed in war is a high general average in surgical skill rather than a few specially skilled surgeons, as conditions are such that the wounded must necessarily be treated at widely separate points; that fine surgeons would not find a good field for employment cannot be maintained, however. If the Russians had such surgeons they certainly should have been found in the great hospitals at Port

Arthur and Mukden; as a matter of fact, they were not encountered in either place. Russian surgery, as exemplified by presumably as good men as they had at these two towns, was no better than that usually seen in Japanese hospitals. However, it was quite different from the latter in many respects. The Japanese certainly never tried to gain experience at the possible expense of their patients, but whether this was equally true of the Russians is not so clear. The latter were especially inclined to make very long incisions to relieve tension. These were often made without reference to the direction of the muscles, the fibers of which were ruthlessly cut transversely. The worst case of this kind seen must be described. It occurred in a Japanese soldier who had received a bullet wound at Mukden. The bullet entered two inches below the left trochanter, with no wound of exit. The urethra was injured so that there was some hemorrhage from it, and the patient required catheterization. The Russian surgeon, presumably to relieve tension, made a deep, vertical, central abdominal incision three inches long, two other incisions four inches long, parallel with this and two inches from it, on each side, and two other incisions seven inches long, one and one-half inches above and parallel to Poupart's ligament, on each side. Whether this manifested recklessness, or was due to a lack of surgical knowledge is a question, but such practice was so unjustifiable as to be almost criminal.

The Japanese criticise the Russians for their early and radical operations generally. Apparently there was ground for this. Some of the photographs show head wounds where the openings through the skull were entirely too large, and the Russian surgeons removed bullets from the head and from other tissues not infrequently which would much better have been left where they were, as no harm was resulting from their presence. Mechanically, Russian surgical work was somewhat better than Japanese, but they did not equal the latter in surgical cleanliness. The Russians placed their reliance on aseptic rather than antiseptic methods, and their asepsis was not good. While it is believed that the Japanese medical officers always did the best they could for their patients, a little thing showed their thorough army training. This was the classification of their surgical cases, in conversation, and also evidently in thought, as those which were capable of evacuation to the rear and those which were not so.

The Japanese were extremely unfortunate in having a very bad first aid packet. The Japanese soldiers had been fairly well instructed in the application of the first dressing, which, as a rule, was put on by a comrade of the wounded man. Each Japanese soldier was supplied with a packet, and inspections were always made by medical officers before the battle to ascertain that each man had his packet, and that it was in good condition. As has been noted, the Japanese surgeons state that in the Chinese war surgeons were able to give personal attention to a large ma-



jority of the wounded, and that, in consequence, suppuration was relatively uncommon. This is believed to be true, but, in a great war such as the recent one, soldiers must be dependent to a large extent on unskilled first aid, and the packet should be one which the soldier or a comrade may apply without infecting a wound. This was not the case with the Japanese packet, and a great deal of pus infection was without doubt due to its worthlessness for the purpose for which it was used. The Russian first aid packet was much better than the Japanese. It had two large compresses of bichloride gauze, with a layer of cotton interposed, and a bichloride gauze roller bandage. The Russians did not issue the packet to a large percentage of their men, however, and those who had it apparently knew little of the proper methods of applying it. Both the combatants therefore failed to gain the benefits which must have accrued to the wounded from a good first dressing, well and promptly applied. It is hardly necessary to state that the future course of many a wound is absolutely dependent on its proper protection by the first dressing. At dressing stations many wounded were re-dressed by the Japanese. Their small and ineffective first aid packet was of course partly responsible for this, as first dressings, on arrival at dressing stations, were likely to be soaked through with blood, so Japanese surgeons could hardly depend on them to properly protect wounds.

Where possible, the Russians provided separate rooms for dressings and for operations. This was the Japanese custom, with them all dressings being changed, bandages applied, etc., in the operating room. This undoubtedly resulted in pus infection of some clean cases, which would have escaped if a clean operating room had been provided for them. In each of the great war hospitals in Japan it is probable that the best plan would have been to have had an entirely separate staff, operating room, wards, etc., for clean cases. Gloves, as far as was seen, were used neither by Russians nor Japanese. There may be a difference of opinion as to the propriety of wearing gloves for certain operations in civil practice, but in war they would undoubtedly be of the greatest value. Much war surgery requires no particular manual dexterity, and the conditions of life in the field are such that it is practically impossible for surgeons to clean their hands. Irrigation for nearly all wounds was resorted to by the Russians, while it was never employed by the Japanese. Very often with the latter wounds were dressed dry, and when fluid was used this only consisted of bichloride solution squeezed from a wet pledget of gauze. Usually the Russians employed sterilized water for irrigation, but alcohol was sometimes used for this purpose. The Russians uncommonly painted the surface around the wound with iodine. The Japanese never did this; the procedure probably had little practical value. The gauze used by the Japanese was sterilized immediately before use, while the Russians commonly relied on ready

sterilized gauze. Only one article of the Russian surgical equipment requires mention. This is their starch bandage, which is excellent. After application they employ its white surface to note the character of operation and date, using an indelible pencil. This proved very convenient, as a surgeon could see at a glance, in going through a ward, which cases require examination or redressing.

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Detailed surgical statistics from which conclusions of value might be made are not available for the Japanese army. It will therefore be necessary to await their publication before anything conclusive can be said on this subject. As stated in another connection, probably no country which has been engaged in war has collected more valuable statistical material than have the Japanese. It is only very recently, however, that they have published their detailed medical records of the Chinese-Japanese war, so it is probable that some years will elapse before their recent vast experience is given to the world. While the Russians must have some interesting material on the surgical history of the war from their side, their organization is such that any publications on this subject must represent individual work rather than that of their medical department as a whole for the entire war. This is not meant to imply that the Russian surgical records will not be valuable in their way, but only to show that they will not be fairly comparable with the Japanese.

According to a statement received from the surgeon-general of the Second Japanese Army, 19 per cent of the wounded of that army recovered in the field, 65 per cent died. These percentages only show what occurred while wounded were under the jurisdiction of the medical department of the Second Army and are therefore of limited value. No general statistics are yet available to show the percentage of wounds followed by suppuration in either the Russian or Japanese army. There is no doubt, however, that neither combatant attained as good results in preventing pus infection as it should have done. There was no hospital gangrene, it is true—one would hardly expect that under modern methods of surgical treatment—but there was a very high percentage of infected cases. In some the type of infection was exceedingly severe. The bacillus pyocyaneus was often responsible in part for the suppuration of wounds.

Some of the causes for suppuration have already been alluded to briefly, but on account of the importance of this subject, even at the risk of repetition, a summary of the more important reasons for infection and noninfection of wounds will now be given. The Japanese had much harder conditions to meet on account of the comparatively large caliber of the Russian bullet, which demanded careful dressing of wounds produced by it in order to prevent suppuration; their first aid

packet was a poor one; there was too much changing of dressings under such conditions that infection of wounds was likely to occur; their practice of not having separate rooms for dressing and for operating was liable to cause infection of previously clean wounds. On the other hand, they had supplied each soldier with a first aid packet, and each man was fairly well instructed in its use with them; men were quickly collected from the battlefields, so that they were not exposed to the many chances of infecting their wounds accidentally; the practice of antiseptic methods in their operating rooms was fairly good, and their surgeons were in sufficient numbers to change dressings under antiseptic precautions. The Russians had injuries to treat which were very much less liable to infection than the Japanese, their tiny entrance and exit bullet wounds sometimes permitting smooth recovery without suppuration and even without dressing; their packet was better, but it was not furnished to a large percentage of soldiers, and men were not generally competent in its application; their wounded often lay on the field for some time, thus increasing the chances of wound infection; their personnel was comparatively small, so that subsequent infection was likely to occur from hurried and careless changing of dressings; their separate dressing and operation rooms are worthy of commendation, though their practice of aseptic methods left much to be desired.

As a general rule, in the field, cases were left far too long without being re-dressed, and this was responsible for a good deal of suppuration which might otherwise have been avoided. This is a condition which must obtain in any great war, however, as the large number of wounded precludes their frequent dressing. Conservatism in operating was carried far by the Japanese—too far, in my opinion. Army work, of course, demands that there be no accumulation at the front of operated cases not able to bear transportation. The Japanese, therefore, sent wounded men to the rear, so far as was possible, only operating on them when their condition absolutely demanded it. This practice was justifiable under the circumstances, but they not infrequently allowed men, after they had been received in hospitals which were prepared to do all needful operating, to go through a long siege of suppuration rather than do simple operations for the removal of dead bones, foreign bodies, and the like. As has been intimated, the Russians erred, rather in the opposite direction, being inclined to operate unnecessarily on cases which would much better have been left till a later date.

The most interesting cases observed, from a surgical standpoint, were false aneurysms (which, it will be remembered, were common in the Boer war), osteomyelitis, and repairs of deformities. Though primary hemorrhage was very rarely responsible for deaths on the firing line, false aneurysms were frequently produced by the small-caliber bullet touching an artery in its passage through the body. Arterio-venous



aneurysms were also not uncommon. False aneurysms seen were practically all of the circumscribed variety. Out of the first 1,000 cases operated on in the great Japanese hospital at Hiroshima, the surgeon in charge stated that 102 were aneurysms of one kind or another. The usual method of operation for aneurysm was to cut down and ligate at both ends, turning out the clot. The results obtained are said to have been good. Wounds of bone, with resulting osteomyelitis, were, of course, exceedingly common. The explosive effect of the Russian bullet at short ranges was marked. Many deformities necessarily required repair, but, as new methods were not generally adopted in doing this work, they hardly merit description. Some exceedingly clever operations were made in this line at the German Red Cross branch of the Tokyo reserve hospital. One which especially attracted attention was the repair of a man's nose by taking needed cartilage from a costal cartilage.

A few interesting cases of wounds of joints were seen which were remarkable on account of the small interference with the functions of the joint produced by the Japanese small-caliber bullet. In one such case in the hospital at Mukden station the bullet had perforated the patella at about the center, then going through the knee joint and the head of the tibia. There was no suppuration, and after three weeks motion in the joint was little limited. High gunshot wounds of the thigh are (little limited) so often followed by fatal results, even under the best methods of treatment, that it is noteworthy that many such cases were observed going on to recovery in the Japanese hospitals.

The hospital at Mukden station afforded quite a wonderful opportunity for study of gunshot wounds of the head. There were 77 of these, in 56 of which the brain had been injured. Twenty-two, or 37½ per cent. died; 8.8 per cent recovered sufficiently to be evacuated to the rear, and the remainder were under treatment at the date of observation. A great many of these cases had large cerebral hernias, which were due, in part, to the large openings which the Russian surgeons had made through the skull. Hernia cerebri was very fatal in the Japanese hospitals, generally, but a number of these cases probably recovered ultimately. Some of the brain cases were remarkable in that a considerable amount of brain was destroyed without great interference with function. Nothing of interest was observed in reference to the various brain centers. Opportunity for their close study was hardly given, however, on account of the extreme difficulties in interpreting through two languages.

Wounds of the chest proved much more serious injuries than those due to the Mauser bullet in the Philippines. Abdominal wounds were universally treated on the expectant plan by the Japanese. The Russians are said to have attempted early operation for them to some ex-

tent at Port Arthur, but to have abandoned this procedure on account of their bad results. Numerous statements have been made that, during the war, abdominal wounds were often followed by recovery without operation, but this was not my personal experience. At Mukden, certainly, a very large percentage of such died. It would have been absolutely unjustifiable, however, for either the Russians or the Japanese to have operated on them with their methods of asepsis and antisepsis.

A great many curious wounds were seen, but none of these requires particular mention. At all the hospitals in Japan where surgical work was done numerous foreign bodies which had been removed from wounds were on exhibition in cases. Though, as has been mentioned elsewhere, the Japanese had an x-ray apparatus at one of the division field hospitals, this was very rarely used, and it is doubtful if it was necessary to carry its extra weight; at home, however, the x-ray apparatus proved of considerable value.

On account of the climatic conditions under which some of the battles were fought, a number of cases of frost-bite occurred. At the fierce fight at Heikotia, in the last few days of January, 1905, some hundreds of Japanese were so badly frost-bitten that amputation of limbs was required for all of them. The weather was extremely cold there, and the lines of the opposing forces were so close together that it was impossible to collect promptly all those hit. Wounded were usually found to suffer frost-bite in an injured limb, because of interference with the circulation from the injury. The Russians stated that they had much more suppuration in winter than in summer, and it is probable that this was also true for the Japanese. Whether devitalization of wounded tissue by cold had anything to do with promoting the formation of pus in the cold weather is an interesting question, but one to which no answer can be supplied. In all cases of frost-bite the Japanese allowed the line of demarkation to form before performing amputation, as they believed that it was thus possible to save more tissue. These cases were never made emergency operations, as it was not considered that they involved danger to life.

According to the Japanese official records but 0.35 per cent of all sickness in the Russo-Japanese war was due to frost-bite, while in the Chinese-Japanese war 4.21 per cent was ascribed to this cause.

Since the recent war closed the Japanese authorities have published some interesting statements on the comparative results of treatment. In the Chinese-Japanese war, of sick and wounded treated in hospital 50.94 per cent recovered completely and 14.24 per cent died, while in the Russo-Japanese war 54.81 per cent recovered completely and 7.65 per cent died. On the whole, with wounded alone the improvement was not so notable. It is true that in the later war 71.58 per cent of wounded recovered completely, as compared with 63.23 per cent in the earlier war,

yet, while in the Chinese-Japanese war 7.49 per cent of wounded treated in hospitals died, 8.83 per cent died in the Russo-Japanese war, and considering the difference which must have existed in the character of the wounds in the two wars, this is not a favorable showing for the last conflict. My opinion of the reasons for this result have already been stated. Apparently the Japanese ascribe it to the inability of their surgeons in the Russo-Japanese war to give personal attention to wounded to the extent they did in the Chinese-Japanese war, both because the number of wounded was much greater in the former and because the character of the fighting was such, especially at Port Arthur, that wounded men could not be succored promptly.

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# MEDICAL AND SURGICAL PROGRESS.

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## INTERNAL MEDICINE.

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IN CHARGE OF  
JESSE S. MYER, M. D.

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ACUTE DILATATION OF THE STOMACH AND INTESTINES IN A CASE OF MULTIPLE PERIPHERAL NEURITIS.—Weber (*Edinburg Medical Journal*, Apr., 1907).—Patient, 50 years of age, was taken with a sudden pain and swelling of the extremities. Had the feeling of needle pricks in his fingers, hands and feet. Heart and lungs normal, abdomen markedly distended. Both the upper and lower extremities showed a slight degree of paresis and anesthesia. Patellar reflexes absent, sphincter of the bowel not involved. Patient received strychnine and injections without benefit. One week later developed a severe pain in the umbilical region and vomiting of blood. The abdomen distended more and more. Death occurred suddenly before operation. The autopsy showed an enormous dilatation of the stomach and small intestines; mucous membranes of the stomach were anemic, thickened and showed a chronic inflammation. The hemorrhage was caused by varicosities of the esophagus and pharynx, cirrhosis of the liver.

The case is regarded by the writer as a neuritis of the vagi, which produced a paralysis of the intestinal tract and final heart paralysis, causing sudden death.

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STATISTICS IN CARCINOMA OF THE STOMACH AND INTESTINES.—Wiley (*Muenchner Medizinische Wochenschrift*, 1907, No. 7).—The writer reports 800 cases of carcinoma of the stomach and 150 cases of carcinoma of the intestines in the Breslauer Clinic, from 1891 to 1906. A plea is made for the early diagnosis and operation of these cases. Exploratory incision is indicated in every case, except those with a metastasis and with complicated diseases, as tuberculosis, nephritis, etc. The difficulty of diagnosis and the loss of valuable time in the attempt to make too exact a diagnosis is discussed. Time does not, however, according to the writer, offer a contra-indication. Seventy-seven per cent of the stomach and 56 per cent of the intestinal carcinoma cases were inoperable after a period of three months, while 27 per cent and 46 per cent respectively were operable after a duration of a year. Resection of the pylorus was done in 163 cases, with a mortality of 35 per cent. This included nine cases of resection of the colon, 36 cases of resection of the pancreas, 4 cases with involvement of the liver, and 4 with adhesions of the abdominal wall. Of 119 cases operated between 1890 and 1902, 13 per cent were well after three years. The intestinal carcinoma showed even a better result in that 40 per cent were free from return.

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SQUAMOUS CELLED CARCINOMA OF THE STOMACH AND ESOPHAGUS IMITATING TUBERCULOUS ULCERATION OF THE INTESTINE.—Rollaston (*British Medical Journal*, June, 1907).—Case is of interest in that patient

had an advanced carcinoma of the stomach and a secondary growth in the esophagus with intestinal hemorrhage, without hematemesis. This, together with the finding of supposed tubercle bacilli in the sputum, caused a diagnosis of tuberculous ulceration of the intestines to be made.

Patient 40 years old, a severe hemorrhage in the bowel, nothing could be palpated in the abdomen. Second day another hemorrhage. Sputum showed tubercle bacilli, and temperature 102° noted for some days. Patient died in three weeks. Autopsy revealed an immense carcinoma and fungus in stomach, measuring 3 to 4 inches in diameter. On the under surface of the left lobe of the liver a growth was adherent and communicated with a necrotic cavity in the liver. The lower end of the esophagus was filled by an oval polypoid mass. Between the esophagus and stomach tumor, the mucosa was normal. The bacilli in the sputum, diagnosed as tubercle bacilli, were found present in the tumor mass. An attempt to grow them failed.

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PHTHISIO THERAPY BY MEANS OF EMULSION BACILLI (Koch).—Meyer (*Medical Record*, Sept. 14, 1907).—Meyer reports 25 cases in which the treatment with the emulsion bacilli gave splendid results. In the table given in the article he divided the cases into three classes—those of moderate severity, patients having taken previously a climatic cure, but relapsed. Secondly, cases of moderate involvement with no previous symptoms, and thirdly, cases of very little involvement, mostly apical and one-sided.

In the first class only one case failed to improve, while in the second and third classes all cases were either cured or greatly benefited.

The writer concludes that an early diagnosis gives the greatest assurance of an early permanent cure, for the advanced cases are generally hopeless and second stage cases doubtful. The cure is possible by tuberculin, but the permanency of such a cure is still in doubt. While no ill effects have followed large doses, nevertheless one should guard against giving them for fear of producing too severe a reaction. Symptoms very alarming to both patient and physicians usually follow large doses. In fever cases very minute doses have a tendency to reduce temperature. The bacilli usually increase in number first and cough may be more severe for a time, but improvement is more rapid. An increase in weight is noted early and general improvement in all symptoms. This proves conclusively that patients, while remaining at home and at work, can take the tuberculin treatment with benefit.

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RELATION OF IODINE TO PARATHYROID.—Estis and Cecil (*Bulletin Johns Hopkins Hospital*, Sept., 1907).—After careful examination and repeated investigations of the parathyroid of dogs, cows, horses, sheep and man, the writers come to the conclusion that the presence of iodine in this gland is in such trifling amount as to be insignificant. The Baumann method of determining iodine was employed. Iodine is always present in large quantities in the thyroid gland and they have concluded in their findings that those cases in which iodine has been found in the parathyroid were due to faulty technique and included some thyroid tissue.

## PATHOLOGY AND BACTERIOLOGY.

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IN CHARGE OF  
CARL FISCH, M. D.

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RELATION OF INTESTINAL INFECTION TO VISCERAL TUBERCULOSIS.—Whipple (*Bul. Johns Hopkins Hospital*, Sept., 1907).—The question of primary entrance of tubercle bacilli through the gastric and intestinal mucosa, leaving the latter and even sometimes the intestinal glands intact, has been a very much discussed problem of late. The tendency of opinion seems to be that such an entrance is possible and that pulmonary disease can obtain without any evidence of its course from the intestine to the lungs. It has been maintained that tubercle-ingested bacilli penetrate through the mucosa in a short time, pass through the lymphatics, and are found in the thoracic duct in an hour or so after ingestion. A priori, the possibility of such a process cannot be excluded, although similar conditions for pigment ingestion maintained by Calmette and others have directly and conclusively been disproved. Whipple undertook the investigation by a method that guaranteed a high degree of certainty. The tubercle bacilli were either injected directly into stomach or intestine after a laparotomy (dogs, rabbits, guinea pigs), or enclosed in capsules and pushed down deep into the œsophagus. At different times these animals were killed and the presence of tubercle bacilli in glands, ducts, etc., determined by inoculation of guinea pigs. The results have been negative in all cases, which leads the author to the following conclusions:

The tubercle bacillus cannot pass from the intestine through the lacteals, mesenteric glands and thoracic duct into the lungs without leaving some record of such passage; a few bacilli, under favorable conditions, may be swept along this course to the lungs, but the majority will certainly lodge in the glands and in time cause a tuberculous process, which can be recognized. When the mesenteric glands are not involved, we may exclude the intestinal tract as the port of entry, but the converse does not hold good for the tuberculous mesenteric glands, which may be secondary to some pulmonary focus that is discharging tubercle bacilli into the alimentary tract. The thoracic duct is often the distributing agent in cases which show scattered tubercles in the viscera and tuberculous mesenteric glands.

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DISSOCIATED SUBCUTANEOUS FAT NECROSIS OCCURRING IN AN INFANT WITHOUT OTHER LESIONS.—Marshall Fabyan (*Bull. Johns Hopkins Hosp.*, September, 1907).—According to Opie, fat necrosis is in all cases due to pancreatic disease, while its conception primarily is that of a disease-entity. Certainly cases have been reported where the pancreas was entirely normal. Chiari has compared the condition to a retrograde metamorphosis in which a degenerative process in a tissue is followed by a necrosis. It is true that in all cases the fat-splitting ferment plays a decisive part, as shown, for instance, by Flexner. On the other hand, fat necrosis occurs without lesions of the pancreas in the fat tissues surrounding the organ, and also in localities very distant from it, for in-



stance, the skin. The first case of a subcutaneous fat necrosis was published by Hanseemann (normal pancreas); later disseminated fat necrosis with normal pancreas was observed by Fraenkel and Flexner. Fabyan adds a very interesting observation of disseminated subcutaneous necrosis in an infant 14 days old. On the third day of life, numerous lesions, called abscesses, were seen on both cheeks, forearms, back of head, buttock and right lower leg. Most of them faded away and were absorbed. Only the abscess of the right cheek remained; it was punctured by the attending physician. Some "pus" was removed that in cultures was found to be sterile. On the 14th day the child died by accident from asphyxiation. The autopsy revealed normal conditions except a few ecchymoses on pericardium and pleura and a large ball of inspissated casein in the stomach. The lesions of the skin were situated on right cheek (large), on right arm and leg. All represented typical foci of fat-necrosis. The pancreas was perfectly normal and the surrounding fat tissue did not show any anomaly. On account of the neighborhood of the cheek lesion to the parotid, the author thinks of the possibility that the gland in infancy might be a producer of lipolysin. The similarity of structure between it and that of the pancreas suggests this possibility to him.

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THE PRACTICAL APPLICATION OF THE DEMONSTRATION OF SPIROCHAETE PALLIDA IN A LARGE HOSPITAL.—Arning and Klein (*Deutsch. Med. Woch.*, 1907, No. 37).—No matter what the opinion may be about the etiologic part that spirochaete pallida plays in lues, it is generally accepted that its demonstration in suspected cases is always a positive proof for the presence of this infection. The demonstration, moreover, clears up many obscure and indefinite conditions, while its absence excludes in most cases, although not always, a luetic process. Up to a year ago, when the methods for demonstration were imperfect and tedious, when a thorough knowledge about the necessary precautions and steps in obtaining suitable material were not developed, failures were many and therefore the importance of this demonstration was only slightly appreciated. By improved methods—particularly by the new Giemsa method—and by a clearer understanding of the behavior of the spirochaete in syphilitic tissue under influences of medication or other external or internal activities, the demonstration has now become a routine procedure, manageable by anybody who once has had impressed upon his mind and eye the characteristic picture of the organism. Arning and Klein, at the General Hospital in Hamburg, since October, 1906, have examined every case of clinically patent or of only suspected syphilis, for spirochaete pallida. The results have been positive in almost all cases. Of 140 cases of primary lesions, all but four showed the presence of the organism; the four negative ones had been, at the time of the examination, under specific treatment. Of secondary, papular and other lesions, 242 were carefully examined with a positive result in 235. The cause of the failure in the others was the specific treatment. In one of the failures in the series of primary lesions the spirochaete had been demonstrated some days before entrance into the hospital. In this time the patient received treatment, but at the hospital no spirochaete could be found. The authors add to this list, at the time of publication,

200 more cases in which the results were about the same. The important point is that the failures can be explained easily by the influences that have acted on the patient in the above mentioned way. The demonstration of spirochaete has today become the strongest factor in diagnosis for a great number of suspicious conditions. In clinically typical cases, of course, it is only confirmatory. The main value lies in the early recognition of the infection, which we have every reason to believe will result in mitigating the character of the general infection.

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## DIAGNOSIS.

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IN CHARGE OF  
ALBERT E. TAUSSIG, M. D.

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THE THREE LONG-CONTINUED FEVERS OF NEW ENGLAND.—Cabot (*Boston M. and S. J.*, 1907, CLVII., No. 9).—In an address delivered before the New Hampshire Medical Society, Dr. Cabot made some interesting statements based upon the large material of the Massachusetts General Hospital. "In New England (and the same observation doubtless holds true of all but the southern fringe of the United States) over 90 per cent. of all continued fevers of more than two weeks' duration are either tuberculosis, typhoid, or sepsis. Meningitis, influenza, grippé and a large number of rarer diseases go to make up the remaining 10 per cent. A frequent source of error in the diagnosis of these long-continued fevers is the failure to recognize beginning tuberculosis by reason, first of all, of paying too much attention to the symptoms and not enough to the signs; too much attention to what the patient says and not enough to what we find on examination. Cases of pulmonary tuberculosis occur occasionally in which the patient does not cough until the disease is well advanced. Such cases are often called malaria, especially if the patient has a chill every day at the same time, or typhoid fever if the temperature is continuously high. An examination of the blood should always enable us to exclude the former, and a careful study of the case the latter. At Saranac, a useful modification of the usual procedure for bringing out crackling rales at the apex in beginning pulmonary tuberculosis is practiced. The patient is made to take a long inspiration, then a full expiration and coughs at the end of the expiration. This will stir up rales and make them audible when nothing else will do so.

In typhoid fever the importance of negative evidence is very great. In the majority of cases it presents the picture of a patient who has fever and nothing to show for it. Constipation is usual, splenic tumor and sore spots are often lacking, and while blood examination, especially blood cultures, usually gives definite information, it is of all the fevers the one that most often shows nothing on ordinary examination.

Sepsis is usually diagnosed rightly because it has an obvious focus somewhere. The occasional mistakes in diagnosis are most apt to concern the liver. Abscess of the liver, whatever its source, often gives rise to no local symptoms whatever, no pain, no tenderness, nothing but a fever. Cases of unexplained fever after operations for appendicitis turn out generally

to be abscess of the liver. Affections of the gall-bladder too are often complicated by liver abscess, and subphrenic abscess due to gastric ulcer are not rare. All of these sometimes give no local symptoms. Then there are the unrecognized cases of empyema following pneumonia. The vast majority of cases of unresolved pneumonia are really empyema. Whenever pneumonia lasts more than ten days an empyema is probably present. In these cases exploratory puncture ought to set us right, but Cabot believes that the diagnosis of empyema should never be excluded unless the chest has been opened, a rib removed and a thorough exploration made.

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BACTERIOLOGICAL EXAMINATION OF THE FECES AS A MEANS OF EARLY DIAGNOSIS IN TUBERCULOSIS.—M. Solis-Cohen (*N. Y. Med. J.*, 1907, No. 34).—The writer reports six obscure cases in all which the diagnosis was made possible only by finding tubercle bacilli in the stool. One of them was a case of miliary tuberculosis, while in five there were obscure pulmonary lesions, though no tubercle bacilli were found in the sputum. The writer believes that in early pulmonary tuberculosis, where the sputum is either absent or free that tubercle bacilli, an examination of the feces for tubercle bacilli may clear up the case.

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A NEW TEST OF GASTRIC MOTILITY.—Strauss and Leva (*Deutsch. med. Wochenschr.*, 1907, No. 29).—In place of Sahli's flour and butter soup, which has been found wanting in several particulars, the writers suggest the use of a butter biscuit. This can be bought in pieces made for this purpose, weighing 50 grams and containing a definite amount of butter-fat. The fat seems permanently bound to the starchy constituents. Strauss's procedure in general is that of Sahli, except that he removes the entire gastric contents and determines the fat by means of a refractometer. For details the original article must be consulted. In general it may be said that the motor phenomena that take place within the stomach during the process of digestion are apparently so complex, that no method based on fat determinations can be expected to yield results of a value corresponding to the labor involved.

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X-RAY IN THE DIAGNOSIS OF GASTRIC AND INTESTINAL DISEASE.—Jollasse (*Muench. med. Wochenschr.*, 1907, No. 29).—The size, shape and position of the stomach can best be determined by means of a radioscopic examination after the administration of a special meal containing bismuth subnitrate. The shape and position of the stomach are shown by means of the black shadow cast on the screen by the bismuth, while the disappearance from the gastric region of this shadow gives information concerning the gastric motility. Any shadow remaining after three hours should be considered abnormal. If the bismuth is administered in a capsule of gold-beaters' skin, the digestive power of the gastric juice may be measured. The bismuth shadow, which at first appears as a small black spot, will spread over the entire gastric area when the gold-beaters's skin has been digested. This takes place in two and a half hours if the gastric secretion is normal. One and a half hours indicate hyperacidity and five hours anacidity. In gastric ulcer the position of the lesion can sometimes be made out by the bismuth which adheres to the ulcerated area.



THE EARLY DIAGNOSIS OF CHRONIC PULMONARY TUBERCULOSIS.—Tatusescu (Rev. *Stuent. Med.*, 1907, No. 1; *Internat. Centralbl. f. d. ges. Tuberk. Forsch.*, Vol. II., No. 1).—The writer describes three neurologic signs of incipient phthisis:

(1.) The brachial plexus sign. Firm pressure over the lower third of the sterno-cleido-mastoid muscle causes a pain which is more marked on the side of the pulmonary lesion. The explanation of this phenomenon consists in the production of a slight neuritis in the brachial plexus by the tuberculous pulmonary apex.

(2.) The cubital nerve sign. When the two epicondyles are rubbed, the tuberculous patient will experience a sensation of pain more marked on the side corresponding to the pulmonary lesion.

(3.) The amyotrophy of de Broix. This consists in a muscular atrophy in the region of the tuberculous apex.

These signs are significant only when the pulmonary affection is unilateral.

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GROCCO'S TRIANGLE IN EXUDATIVE PLEURISY.—Padoa (*Gaz. d. Osped.*, 1907, No. 33).—It will be remembered that in 1902 Grocco and, somewhat later, Koranyi called attention to a triangular area of dullness occurring in cases of pleuritic effusion, along the spinal column on the healthy side. The most rational explanation of this phenomenon consists in the assumption that the effusion pushes the mediastinum away so that it comes, at least in part, to lie on the other side of the spinal column. Clinicians who claim to have observed this sign in pneumonia were apparently led astray by a simultaneous but overlooked pleuritic effusion. Interesting observations have been made in double pleurisies in which Grocco's Triangle shifts from one side to the other in proportion as one or the other effusion attains the higher level.

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## THERAPEUTICS.

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IN CHARGE OF

WILLIAM ENGELBACH, M. D.

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PHTHISIOTHERAPY BY MEANS OF EMULSION BACILLI (Koch).—Meyer (*Medical Record*, September 14, 1907).—The author states that adverse criticisms of tuberculin which are encountered in the literature of today should be based on a more careful and conservative investigation on the part of the opponent. His own experience with both the old tuberculin (for diagnostic purposes) and the new tuberculin (emulsion bacilli) as a curative agent was strengthened by German and French physicians as well as Trudeau, Brown, Pogue of this country. Even if the results are not entirely satisfactory, and in spite of the fact that not enough time has elapsed to assure the permanency of the effects obtained, he maintains that the curative properties of tuberculin is unquestionable. There was also no doubt as to the diagnostic value of tuberculin in cases in which the physical signs were practically absent. His treatment was as follows: Pulse

and temperature was taken before the injection and again from 12 to 24 hours afterward. The initial dose of the emulsion is 0.0005 mgm., slowly increased to 5 and at times to 20 mgm.; the latter is given rarely. Injections are made on the average once a week, in a few cases twice a week for one or two months, then bi-weekly until the cure is completed (five to seven months). Some patients reach a dose of 1 to 2 mgm. only as the maximum dose in their case. If possible I avoid all reactions and I succeed in the majority of cases by the above doses. The weight, pulse, temperature, and general condition form the guide to the dosage. The average duration of the treatment is from five to seven months, with occasional exceptions. He presents 25 cases of working patients in which no other remedy than tuberculin was employed. His personal conclusions are as follows: (1) An early diagnosis gives the greatest assurance of an early permanent cure (tuberculin being the means of such diagnosis); (2) the selection of cases has a direct bearing on the results; far advanced cases are generally hopeless and second-stage cases doubtful; (3) a cure is possible by means of tuberculin, but the permanency of such cure is sub judice at present; (4) the dose is to be guarded in order to avoid reaction of a severe type and the intervals between the injections should be regulated according to reaction; (5) no ill effects have followed large doses, even in the beginning of treatment; but it is advisable to give small doses, since the larger doses may cause symptoms which alarm both patient and physician; (6) in fever cases very minute doses have a tendency to reduce temperature; three of the twenty-five cases have acted that way; (7) bacilli usually increase in number at first, and cough may be more severe for a time, but the improvement is early and rapid; (8) under tuberculin the weight increases and the general condition improves, the symptoms disappear, and the patient feels in every respect better; this naturally pertains only to certain well-chosen cases; (9) these observations have conclusively shown that patients while remaining at home and at work can take the tuberculin treatment and receive a great deal of benefit from it.

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THE USE AND ABUSE OF CARDIAC STIMULANTS.—Hare (*Therapeutic Gazette*, August, 1907).—In this article the author discusses the common disregard of certain essential details concerning the action of cardiac stimulants. Physicians themselves probably suffer more as a class from this abuse. The "tired heart" commonly existing among physicians usually receives at their hand excessive doses of digitalis instead of the indicated rest. Strong coffee and other adjuncts are also self-prescribed, causing an increase of the cardiac disorder. Another erroneous use of cardiac stimulants is their employment in a state of undue excitation in which condition cardiac sedatives are needed. Not uncommonly cardiac irregularity calls for small doses of aconite or veratrum viride. Again a patient with feeble heart receives digitalis when in reality the cause of the feebleness lies in a degenerated heart muscle, which is incapable of gaining any advantage from this drug. In fact by contracting a blood vessel digitalis increases the labor of the heart. Under these circumstances trophanthus or cactus, the action of which is cardiac, but slightly if at all vascular, should be used. Digitalis is also given in small doses in cases of failing heart, when the chief cause of the failure lies not in the heart itself, but is due to a higher arterial spasm or atheroma. In such cases if digitalis is given

for the heart muscle its vascular effect in the already existing normal tension must be simultaneously relieved by the use of vascular relaxants such as the nitrites. It is also well before using powerful heart tonics to determine if possible any cause which if removed would thereby relieve the condition. The prohibition of the excessive use of tobacco with alcoholic drinks, of excessive feeding or sexual excitement, will be the means of dispensing with cardiac tonics.

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THE ACTION OF THIOSINAMIN IN SCLEROSIS OF THE CARDIO-VASCULAR SYSTEM.—Renon (*Soc. de Ther.*, June 25, 1907).—The author has studied the effects of thiosinamin upon arteriosclerosis and fibrous changes of the heart valves and vessels for a number of years. In mitral affections (stenosis and insufficiency), he observed no marked effect. On the contrary in atheroma of the aorta the functional symptoms were favorably influenced, while the physical findings (murmur) were not modified. In arteriosclerosis subjective symptoms were less markedly affected than in atheroma of the aorta. In some cases the dyspnea and blood pressure were decreased. He gave injections of 5 ccm. of a 4 per cent solution daily for 25 to 30 days. They were given in the subcutaneous tissue of the abdomen without pain or other untoward symptoms. Frequently following the injection there was a marked decrease in the subjective symptoms and blood pressure.

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THE TREATMENT OF HEADACHES.—Robinson (*Monthly Cyclopedia of Practical Medicine*, May, 1907; *Ref. Med. Rev. of Revs.*) states that, to begin with, the etiology must always be considered and the cause banished, if good results are possible. Anaemia must be cured, gout or rheumatism specifically treated as far as may be, febrile conditions ameliorated, and then with proper time the patient recovers—it may be altogether, it may be only for a time. If an alcohol habit be marked, it should be interdicted, and tobacco excess moderated. Lead poisoning of certain trades, manifest malarial cachexia, insufficient renal elimination, with premonitory headache of uraemia, are all to be properly treated, or else headache continues. When syphilis is present and there is nocturnal headache with insomnia, iodides in increasing doses are our mainstay. Nasal obstruction, adenoids and hypertrophied tonsils must be removed. A sagging or retroverted uterus should be raised or replaced in normal position. Errors of menstruation must be corrected by general and, in minor degree, by local measures. But when we reach digestive disturbances, acute or chronic, we touch really the keynote of very many headaches. An error of diet, some special food, or merely a surfeit of too many foods, will give a headache, which five grains of blue mass, followed by a saline draught, will alone relieve effectually and rapidly. A neuropathic condition is shown to be the efficient cause of very many, indeed the greater number of miserable headaches. The most prevailing symptom accompanying the headache is disordered digestion—dyspepsia, constipation, diarrhea. Proper neutralization and elimination through the digestive tract can usually be of primary and greatest service. And here, particularly, we would lay great stress upon the sour milk diet and the moderate use, morning and night, of sulphate of soda. When we come to relieve migraine, we can do little more or better. No treatment will surely prevent the return of the



paroxysms, simply because we have here to do with a constitutional neurosis, in which heredity is the ruling power. A permanent and absolute cure is a difficult undertaking, and to be fair to our patients they should be informed of this fact. In most cases of sick headache the final and only appeal left us is, unfortunately, the hypodermic administration of morphine.

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## SURGERY.

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IN CHARGE OF  
MALVERN B. CLOPTON, M. D.

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**BRAIN-PUNCTURE.**—Pollack (*Mit. a. d. Grenz. d. Med. u. Chir.*, Bd. 18, Hft. 1).—This method, first introduced by Neisser in 1904, is not to be confused with the suggestion of A. Kocher, to make a small opening in the skull for the purpose of injecting tetanus antitoxin into the lateral ventricles, as the purpose of brain puncture is to attempt to remove something and on the findings base a diagnosis. With the patient in a semi-reclining position, to partially exsanguinate the meninges, a small opening is made through the skull by a motor-driven drill of small calibre, and through this a narrow-walled canula is inserted for the diagnosis of underlying conditions. A general anesthetic is very rarely necessary, but if used a few drops of chloroform are given, more as a suggestive narcosis; or, as some authors have suggested, a local injection of cocain is useful. A blunt-pointed needle is used for the determination of extradural hemorrhage, while a sharp canula is used when it is necessary to puncture the dura; and if it is necessary to aspirate, a Luer syringe is used. The method was originally proposed to aid in the diagnosis of brain abscess, epi- and subdural hematomas, brain cysts and tumors. It is now extended to include prognostic and therapeutic indications. One case of extradural hemorrhage coming on slowly after an injury, was explored in two places; in the first instance clear serum was encountered, which made them believe that the bleeding was stopped, and at the second puncture the clot was encountered and removed by aspiration, with no return of any trouble within a year. By this method they expect to make it unnecessary for exploratory craniotomy on both sides of the skull in cases difficult to diagnose, to locate operable conditions so that the operation need not be very extensive. This applies particularly to cysts and tumors of the cerebellum, in that they are most frequently hard to localize or diagnosticate. In cysts it is possible to relieve the condition as well as make a diagnosis. One case is cited in which a cyst was punctured seven times through the intact skull in a period of one and a quarter years, 250 c.c. of clear fluid having been removed in that time, and the case has remained well for over three years. There are several series of brain tumors reported in which the puncture had made a diagnosis, an operation following in favorable cases, and the excellent results of operation are claimed to depend on the knowledge gained by the preliminary puncture. Old hemorrhages when aspirated are diagnosed by the reddish yellow fluid withdrawn in which are brownish flakes, seen through the microscope.

Increased intracranial tension is one of the most beneficial effects of puncture. More recently the method has been used to puncture the lateral and the fourth ventricles for primary hydrocephalus internus and secondary hydrocephalus after plugging of the veins of Galen, or closure of the aqueduct of Sylvius. They have also tapped the ventricles in a case of genuine epilepsy, removing a reagent glassful of fluid on several occasions, each time relieving a violent headache and making the patient feel much better. They suggest many experiments which they have tried, or will try, to show that the foramen of Magendie is open or closed by a growth or disease, by using lumbar puncture in conjunction with ventricle puncture. They have also shown the connection between the lateral ventricles by introducing methylene blue into one ventricle and removing it from the other.

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INTRAPERITONEAL INJECTION OF OXYGEN FOR TUBERCULOUS ASCITES.—Schulze (*Mit. a. d. Grenz. d. Med. u. Chir.*, Bd. 18, Hft. 1).—A comparison of the various forms of treatment for tuberculosis of the peritoneum, and the theories which account for the cures after exploratory laparotomies, precedes the presentation of the method of Meyer and Schmidt, of injecting oxygen after the aspiration of tuberculous ascites. Reasoning from the fact that a fairly large proportion of the operated cases recover, and remain free from ascites, and knowing that simple aspiration of fluid is rapidly followed by its return, they decided to combine the subsequent injection of oxygen after aspiration to imitate the entrance of air during operation. The report is based on six cases so treated over a year and a half ago. All remain alive and are able to work. Five received only one puncture and oxygen injection, one case receiving two, the latter having had a laparotomy previous to the first injection. In one case the tumor masses entirely disappeared, and in another they ceased to give trouble. In all the cases the injection was supposed to do good; in half of the cases there was a reaction immediately following, such as pain or vomiting, the fluid slightly increased, but later the ascites was entirely absorbed. Late recurrences were not met, but one case was aspirated and injected twice within a short period. No attempt is made to explain whether the effect is from the hyperemia, or by the chemical effect on the bacteria. The abdomen is tapped with a trochar and canula, about 1000 to 1500 c.c. of fluid removed, and then the same amount of oxygen is injected, under two to three atmospheres of pressure. The oxygen is made fresh from potassium chloride and potassium permanganate.

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NOTES ON THYROID TUMORS.—Barker (*Practitioner*, Sept., 1907).—In considering the kind of anesthesia to use in removing thyroid tumor the choice is given to a local anesthetic which gives a most effective analgesia, and is applied by a method rather different from that ordinarily practiced. A two per thousand of B. Eucaïne in normal saline is prepared fresh by adding a powder containing 3 grains of sodium chloride to 3½ ounces of water, which is boiled in a glass flask for a few minutes, then cooled to blood heat. To this, when cooled, is added 10 drops of 1-1000 adrenal chloride. A line following Kocher's incision is injected in the skin with an ordinary hypodermic needle. A blunt, probe-pointed,

long needle is then used, with a lateral opening near the point. It is thrust through a small opening into the subcutaneous tissues and about 30 c.c. of the solution is injected across the neck; then the solution is injected upward, outward and downward from the outer end of the incision. The fluid thus diffused will cause an artificial edema, which will cross the track of most of the cervical nerves supplying the skin in the field of operation. A further injection is made around the capsule of the gland on both sides. These injections, which may use as much as 150 c.c. of fluid, are made with the patient in bed in the ward. At the end of 40 minutes the anesthesia is at its height and the patient is removed to the operating room where, with a nervous case after a preliminary injection of morphine, the operation is done without pain in an area which has entirely lost its edema, and the field is practically bloodless. Adrenalin delays the effect of B. Eucaine, but prolongs it up to two and a half hours. He reports twenty-two thyroid operations; every one healed without a flaw, in most without any drainage. It is also noted that hardly any ligatures were employed.

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SURGICAL TREATMENT OF EXOPHTHALMIC GOITRE.—A. Kocher (*J. A. M. A.*, Oct. 12, 1907).—Out of 3,460 goitre operations at Berne 315 have been done on 254 patients with exophthalmic goitre. Of the last ninety-one operations performed on sixty-three patients there has not been a death, and of all the 254 patients only nine have died (3.5%). The improvement in death rate is not because severe cases have been refused, but because more prudence has been observed in operating, the technique has been improved, and the various operative procedures, such as ligating the arteries or excision, are done at different sittings. The strength of the heart is considered of the greatest importance. In many cases it is dilated, and if there is compensatory hypertrophy due to tachycardia, blood pressure is increased. A blood pressure of 105 c.m. does not forbid operation if the pressure is proportional to the degree and constancy of the tachycardia. If in a marked development of the disease with low blood pressure, which after exertion is followed by marked cardiac dilation and unmeasurable blood pressure, the case is never submitted to an immediate extensive operation. In a highly vascular gland with marked symptoms, the patient is prepared merely for a slight operation. In fifty-eight cases the blood was carefully studied and showed a marked increase in the number of lymphocytes and a decrease in the polynuclears. The increase of lymphocytes is proportional to the degree of the disease, and if there is no increase of lymphocytes the case is a serious one. Only in early undeveloped cases, or late cured ones, is the lymphocytosis absent. The operation performed by Kocher is usually the enucleation of one lobe. Inasmuch as increased vascularization is necessary for the increase of the disease, ligation of the arteries is sometimes done alone, and sometimes in conjunction with partial excision. There has not been a single case in which the patient has not been benefited by operation. In all cases there has been 83 per cent of cures. There are 73 per cent of cures in the patients with the primary disease; 92 per cent of the cases having the disease combined with ordinary goitre, and 100 per cent of the patients with vascular goitres. Some of the observations date back seventeen years, and in some of the



most severe cases it took a long time before the heart and eyes became normal. Those coming to operation after a long duration of the disease and secondary changes had taken place, were the hardest to cure. Ten cases were not benefited much, but in them there were symptoms of other diseases.

With careful preliminary observation it was found possible to operate in nearly every case. Repeated operations, with patients under observation in the meantime, are necessary in some cases. More than two arteries should never be ligated at one session. To remove more than half the gland at one sitting is dangerous, and it is rare that this is ever wanted. In the presence of distinct vascular symptoms one should operate immediately, ligating two arteries, or excising half of the gland. When at the height of the distressing disease, operation is not advisable. Operation is best done under cocaine. Immediate post-operative increase of disease is thought to come from expression of toxin in the gland.

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SURGICAL TREATMENT OF DYSENTERY.—Curl (*Military Surgeon*, Oct., 1907).—There are three classes in which dysentery cases can be considered, viz: Those which respond to medicinal and dietetic measures (usually early cases); those which come under observation in a weak condition with extensive gut changes, in which the prognosis is always bad; an "intermediate" class, in which changes in the colon are not severe, but in which medicinal treatment does not check the disease, and if left to this kind of treatment, usually die. This last group is the one in which operation is advised, and in most of these it is a *dernier resort*, but offers the only hope of recovery. The author's experience was gained at the Canal Commission Hospital at Colon, Panama, where dysentery is most common, usually amœbic, but some bacillary cases. He also reports on twenty cases operated. He prefers bringing the cecum to the abdominal wound after having removed the appendix, as it can readily be brought into the wound without disturbing the relation of the structures, and because the cecostomy sinus usually closes spontaneously. He objects to bringing the appendix into the wound (appendicostomy) because the lumen may be too small, the distal portion may necrose, and there may be great strain on the cecum in bringing the base of the appendix to the wound, and finally the greater likelihood of a persistence of the sinus after irrigations are stopped. The advantages of using the appendix are that the operation is done quicker, the irrigations of the colon may begin immediately, and fewer and less extensive adhesions are formed in the abdomen. For irrigation he has used 1-3000 to 1-1000 solutions of quinine, and occasionally silver nitrate. Of the twenty cases eleven recovered, two improved, five died, and two are still under treatment. Three cases were operated when very low, and only one rallied for a day or so; in one case the secondary opening in the gut was not made. One death was due to tuberculosis two months later. Those cases recovering showed marked improvement in the first three days, the bowel movement decreased from 20 to 30 to 2 or 3 a day. Some cases relapsed when irrigations were suspended, but cleared up again permanently when resumed.

## ORTHOPEDIC SURGERY.

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IN CHARGE OF  
NATHANIEL ALLISON, M. D.

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RIGHT-ANGLED CONTRACTION OF THE TENDON ACHILLES AS A CAUSE OF STUMBLING, ETC., IN CHILDREN.—Tubby (*Brit. Jl. of Children's Dis.*, July, 1907).—The clinical picture presents the following variations: (1) Pain in the calves and round the knees. The child becomes tired in walking, and stumbles and falls on attempting to run. (2) Shambling gait, short steps and bent knees, the bending being increased on taking longer steps. (3) Constant occurrence of sprained ankle. (4) Everted feet; though the arches have not fallen they are often exaggerated. (5) Turning in of the toes, the child walking on the outer side of the foot. All these clinical phases result from a varying degree of loss of the angle of dorsi-flexion of the foot, due to contraction of the calf muscles and tendo-Achillis. This produces shortening of the stride in walking, the patient being in uncertain equilibrium if he attempts to take a long step. If allowed to proceed, the condition develops into ordinary talipes equinus, and recognition and appropriate treatment of these slighter degrees of contraction are essential. In examining the child, the movement of dorsi-flexion of the foot should be slow, gentle, and steady, and one examination is often insufficient to determine the degree of contraction present. The condition is usually due to infantile paralysis, and the difficulty in walking and other symptoms described to the surgeon frequently begin with one of the exanthemata. Another set of causes is associated with throat lesions, and in Anglo-Indian children there is often a history of one or two attacks of "fever." The treatment presents considerable difficulty. If, with the limb fully extended, the foot is incapable of dorsi-flexion beyond a right angle, it is advisable to lengthen the tendo-Achillis. An open operation is recommended, the tendon being lengthened by the Z-shaped method. A transverse incision is made halfway through the tendon, the knife carried vertically downwards for a distance of one to one-half inch, then turned on the flat, the remaining part of the tendon cut through transversely, and the two portions slid upon one another until the desired degree of lengthening is obtained. In cases where there is only a small diminution of five degrees or so of the angle of dorsi-flexion, passive and active movements designed to stretch the contracted structures are advisable, and much assistance is afforded by a boot with a toe-uplifting spring. If these measures fail, recourse may be had to the method of operation described.

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CONTINUOUS PASSIVE HYPEREMIA IN DELAYED UNION OF FRACTURES AND IN HASTENING THE CONSOLIDATION OF FRACTURES.—Roberts (*Surg. Gynec. and Obs.*, Sept. 1907).—Although delay in the union of fractures is not of very frequent occurrence, it is satisfactory to have at our service, for such cases, so simple a method of treatment as that recommended by the author. For the last ten years he has advocated the use of passive hyperemia as a means to secure union where the delay is not due to some mechanical condition which would make union impossible. In these cases he advises operative intervention. This topic was thoroughly

described by Helferich, and before him by Dumrieher, but little attention has been paid to it. The work of Bier has again called attention to this form of treatment. The author is of the opinion that it will cause union to take place where non-union is threatened and will encourage union in simple fracture. He advises the use of an elastic bandage, not too tightly applied, but firmly enough to induce a little bluish swelling of the limb below. It should give no pain. The place of constriction should be shifted from time to time and the underlying skin rubbed with alcohol occasionally. This, coupled with a constant outdoor life and good food, will greatly aid the bones to unite after fracture.

## GENITO-URINARY SURGERY.

IN CHARGE OF  
H. MCC. JOHNSON, M. D.

A STUDY OF GONORRHEAL PUS IN STAINING SERA: WITH SPECIAL REFERENCE TO PHAGOCYTOSIS.—Farve (*Am. Jour. Urology*, Aug., 1907).—The author first discusses the properties of neutralroth, which in acid solution gives a reddish stain, and in slightly alkaline solutions the color imparted is brown. He refers particularly to the manner in which fresh gonorrheal pus acts when placed in an isotonic serum to which has been added a very minute quantity of neutralroth, and reports excellent results from employment of the following solution: Saturated watery solution of neutralroth 1 cc., salt solution 150 cc. The quantity of serum may be carried as high as 200 cc. In daily work the solution is prepared extemporaneously by adding to the serum small doses of the solution of neutralroth until the liquid has taken on a slight yellowish-red tint. A drop of this solution is placed on the hanging-drop slide and a small bit of gonorrheal pus, on a platinum wire, is mixed as intimately as possible with the serum. All lumps should be avoided, representing masses of cells which considerably hinder observation. The cover glass is arranged and held in place with paraffin. Under a high power objective, perfect preservation of the movements of the leucocytes is observed. After a few minutes the stain becomes fixed in the nuclei of the dead cells, which represent about one-tenth of the total number; these cells are round and their protoplasm takes on a yellowish tint. Other leucocytes have totally unstained nuclei and present in their protoplasm stained grains, some being very intensely stained a reddish brown, others being less markedly so. These colored grains represent the gonococci, while others are granulations whose nature is considerably discussed. The gonococci are admirably brought in evidence by this stain. Against the unstained or very slightly stained background of protoplasm, they appear deeply tinted reddish-brown, presenting their typical shape and usually grouped in pairs. They vary in number; sometimes they infiltrate and actually riddle the protoplasm of the cell, while at others they are few, so that only two, four, or six gonococci will be found in each cell. They always occupy the protoplasm, and have never been distinctly seen in the interior of the nucleus. Besides the stained gonococci there were others that remained unstained, or were only tinted yellow. These unstained forms



are especially frequent in those cells in which the organism is very numerous. These gonococci which resist the staining action have never appeared very abundant. It is quite possible that they may have been confounded with certain granulations of the leucocytes, and especially with eosinophile granulations. Eosinophile leucocytes are constantly present in the pus of gonorrhea. They are more or less abundant, according to the time of the disease, its extension and localization. The granulations are sometimes very fine, while at other times they are few in number and of large size. Under ordinary conditions of experimentation these granulations do not stain with neutralroth or only become colored a very little yellow. The extracellular gonococci and other organisms which are frequently encountered in urethral pus associated with the gonococcus, remain unstained. At any rate a few of them (about 1 per cent) are weakly stained red. The gonococci are more or less abundant according to the nature of the gonorrhea. The gonococci placed in evidence by neutralroth are always in exact proportions with those which are stained in dry pus by the ordinary methods.

If one attentively examines a certain number of cells containing this organism, one will always see, if not in every one, at least in many of them, ameboid movements develop. These are always slow. It appears that the leucocytes containing the organism always present, in a most evident way, signs of a lowered vitality. In these cells very distinct movements are observed, the granulations become displaced, go away from or approach each other, but it would be timorous to attribute the production of these movements to the gonococcus itself. The organism, under these conditions, has more especially appeared to undergo the movements of the substance of the leucocyte itself in which it is enclosed, and it will be found to become displaced in the direction of the prolongations of the cell.

After a certain time, which probably varies in direct relation to the vitality of the elements of the given specimen of pus, the leucocytes present the phenomena that have already been described as forerunners of cell death, their activity become lessened and the movements of translations become very slow. At this time Brownien movements become manifest in many leucocytes, while the gonococci present manifest movements of oscillation. Besides the nuclei of certain cells and the intracellular gonococci, certain granulations in the protoplasm fix the stain. In the pus of acute gonorrhea, with a profuse greenish discharge, the leucocytes contain quite a number of granulations. These are more scarce in pus from chronic gonorrhea. The latter appears to stain more slowly than the gonococci and is always less intense, varying from a yellow to a light brown. Rarely these granulations stain a brick red, and under these circumstances are easily distinguished from the gonococcus. From four to six hours after mounting the preparation the proportion of leucocytes possessing stained nuclei will have been increased. After twenty-four hours, however, all trace of the stain has disappeared. The question arises if this method has a practical side. The author believes it has, on account of the ease with which the gonococci can be demonstrated. The method of examination in colored serum avoids many of the manipulations required for staining the dried pus. The hanging-drop is not absolutely necessary and the simple slide will ordinarily be

sufficient. The drop of serum is covered with a cover glass which is held in place by paraffin. A preparation such as this would not serve to study all the phenomena described, but it is certainly a simple, elegant and rapid means of detecting the presence of the gonococcus.

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## GYNECOLOGY AND OBSTETRICS.

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IN CHARGE OF  
HUGO EHRENFEST, M. D.

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EPILEPSY AND THE STATUS EPILEPTICUS IN CONNECTION WITH PREGNANCY AND LABOR.—Robert Jardine (*Jour. of Obstetr. and Gyn. Brit. Emp.*, Vol. XII., No. 1).—In his recently issued book on epilepsy, Dr. W. A. Turner gives his experience with the influence of pregnancy, the puerperium and lactation in forty-one epileptic women with a history of sixty-one pregnancies. He tabulates the results in the following manner: Quickening induced a relapse in 7 cases, pregnancy was the original cause in 2, induced a relapse in 14, was temporarily beneficial in 6 and made no difference in 1 case. Labor was the original cause in 5, induced a relapse in 17 cases, while lactation was the original cause in 3 and caused a relapse in 6 cases. In discussing these observations Turner rightly emphasizes the obstetric importance of those instances in which a relapse was caused by confinement. There were two, in which a remission of 12 and 18 months respectively, was broken by the eclamptic seizures of the puerperium. The incidence of serial epilepsy, at or immediately succeeding parturition, is, therefore, a common feature in epileptic women, and raises the question as to the diagnosis of certain forms of puerperal eclampsia. A history of pre-existing attacks would determine the diagnosis of epilepsy; while the existence of a neuropathic family history, or the presence of stigmata of degeneration would point to eclamptic attacks as being of epileptic nature. The presence of albuminuria does not of necessity form the main element in the differential diagnosis, as albumen has been found in the post-paroxysmal urine of epileptics, although it is not a common occurrence. Turner concludes: "It is, therefore, clear, that many cases of puerperal eclampsia are really examples of serial epilepsy, or the status epilepticus, induced during the puerperium in predisposed and neuropathic persons."

To this last statement Jardine, while agreeing in the main with Turner, takes exception. He says: "The two conditions resemble each other so closely that it is difficult to distinguish between them, but there are so few cases of eclampsia, which subsequently have fits, even in connection with pregnancy, that I think we are justified in concluding, that a true case of eclampsia is not one of epilepsy."

A few very interesting cases are detailed. Case 1. A patient, III para, was unconscious when brought into the maternity. Within five hours she had twenty-one convulsions. After forced delivery she remained free from seizures for eight hours. Then fourteen fits in two hours. For the next two days seizures would appear at times up to fifteen within an hour. On the third day the attacks became more

frequent, thirty between 9 and 10 A. M. Between 1 and 2 of the same afternoon she had thirty-two. Later in the afternoon she began to sink and finally died at 7 P. M. The number of distinct fits recorded was 774. For the first two days albumen could not be detected in the urine, later there was never more than a faint trace. At first the patient was looked upon as an eclamptic, but later the writer concluded that he was dealing with a case of status epilepticus. Post mortem examination confirmed this diagnosis.

Case 2. Patient 34 years old, II para. Previous to her first pregnancy no fits. Suddenly in about third or fourth month fits had commenced to occur, at times fifty within 24 hours. Since this second pregnancy she has had attacks of *petit mal* every few weeks. Less frequent of late. Within the last few days before admission to hospital there were from four to eight fits a day. She was pregnant seven and a half months. No indication of labor. Conscious. A few days later vaginal Caesarian section was performed. On the day after delivery forty-two fits; the total number of attacks recorded in this case was 102. Patient recovered.

Case 3. Patient was 21 years old, III para. Had convulsions when 12 years old, none since. When six months pregnant (first pregnancy) convulsions began. As pregnancy advanced they became more frequent, two or three a week. Just before labor fits very frequent, two a week during puerperium. During second pregnancy she had about three fits a week. Between second and the present third pregnancy she had about three attacks a week. At the time of admission to hospital the patient was about seven months pregnant. Fits had become more frequent, four on day of admission. Urine contained a trace of albumen. Two days later premature expulsion of fetus. No fits during labor, only one slight one during puerperium.

Case 4. Convulsions had began in earliest childhood. Patient was married seven years, and since marriage the attacks have never been convulsive, but consisted of loss of consciousness and strange actions. She is pregnant for the fifth time. During pregnancy her attacks always have been less frequent than at other times. The patient had no attacks while in the hospital.

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THE NECESSITY OF REMOVING THE APPENDIX DURING EVERY GYNECOLOGIC LAPAROTOMY.—Pankow (*Muenchn. Med. Wochensch.*, 1907, No. 30).—In this article the author makes a strong appeal for the removal of the vermiform process, whenever the abdomen is opened for a gynecologic operation. Incidentally he attempts to prove that for this reason alone the abdominal route must be given preference over vaginal coeliotomy. From statistics, largely supplied by American surgeons, it has been estimated that in about 10 per cent of all women, in whom a laparotomy is performed for some gynecologic disease, the appendix is found in a diseased condition. In carefully examining 147 cases Pankow was able to detect microscopic evidence of an inflammatory process in the appendix in eighty-two instances, and thus he feels justified in concluding that the proportion of concomitant appendicular trouble is much higher and must be placed at about 60 per cent.



## PEDIAICS.

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IN CHARGE OF  
ALFRED FRIEDLANDER, M. D.

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PNEUMOCOCCUS-PERITONITIS IN CHILDREN.—Koos (*Arch. f. Kinderheilk.*, Vol. No. 46, page No. 228).—Two forms of pneumococcus-peritonitis are recognized in childhood, an encapsulated and a generalized purulent peritonitis. The disease always has an acute onset with severe abdominal pain, high fever and vomiting. The pain is usually diffuse. In some cases an additional symptom consists of numerous watery, odorless stools. Herpes-labialis is found in some cases. In the course of the encapsulated form, the acute symptoms ordinarily begin to disappear after 3 to 7 days. In the second stage it is then possible to determine the presence of fluid in the abdomen. A differential point between this form of peritonitis and the tubercular form, is that fluid can be made out very much earlier in the pneumococcus form. Spontaneous rupture occurs in many of these cases, particularly in the encapsulated form, the pus escaping in most cases through the umbilicus, though it may escape through the vagina. If there is no spontaneous rupture and no operative interference there follows, from the retention of the pus, the picture of a severe septic infection. The differential diagnosis between the generalized form and appendicitis is often not to be made. With reference to the etiology, it is to be noted that the infection may be secondary or primary. Secondary infection occurs as a result of primary pneumococcus infection of the lungs, bronchial tubes, pleura, middle ear, testis, etc. Primary infection probably always occurs through the medium of the intestinal tract, though it is possible that in female children, infection may also occur through the genitalia. Indeed, it is noteworthy that of 72 reported cases, 58 occurred in girls. The prognosis of the encapsulated form is not bad if the diagnosis be made and early operation be had. Of 69 reported cases, 51 were of the encapsulated variety. Of these, 4 died, a mortality of only 8 per cent. Of 18 cases of the diffuse form, 14 died, a mortality of 77 per cent. Treatment in both cases is purely surgical, consisting in the evacuation of the pus and drainage, though it is noteworthy that if the operation can be postponed until the second week, the outlook for recovery appears to be much better. The indication for the operation is therefore to be made dependent upon the presence of the fluid exudate.

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THE ALBUMINURA OF THE NEWLY-BORN.—Gundobin (*Arch. of Kinderheilk.*, 46, page 267) finds that the presence of albumin in the urine of the newly-born can under no circumstances be considered a normal phenomena. Inasmuch as the investigators have in most cases found only traces of albumin, which disappeared very early, we ought in reality not speak of albuminuria of the newly-born. To explain the appearance of this albumin, it will not suffice to study the question in relation to the nutrition of the child and nutritional disturbances. It is also necessary

to study the diseases of the fetus, concerning which, we have as yet very hazy notions.

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CONCERNING ALIMENTARY INTOXICATION.—Finkelstein (Berlin) has been publishing a series of articles on this subject. In the third instalment of his monograph (*Jahrbuch f. Kinderheilk.*, July, 1907), he says that four stages of this condition may be recognized. In the first stage, which he calls the stage of disturbed equilibrium, the function of nutrition is disturbed to such an extent that the structure of the body and the degree and kind of growth is below normal. In this stage, however, with a properly regulated diet, the child may apparently be practically normal. Even if the feeding be forced there will be no great increase in weight. The second stage Finkelstein calls the dyspeptic stage. In this stage the disturbance is so great that the child only remains free from pathologic symptoms if the amount of food is kept just below the normal limits. If this amount of food be increased there will follow immediately abnormal stools and fever. The third stage is the stage of decomposition. The tolerance for food, at first fatty food and later sugar-containing food, is now greatly diminished. If the food be forced, there is abrupt loss of weight, with oscillation in the temperature curve, frequent subnormal temperature, irregular respiration, cardiac weakness and slowing of the pulse. The fourth stage is represented by the classical picture of auto-intoxication.

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## NEUROLOGY.

IN CHARGE OF  
SIDNEY I. SCHWAB, M. D.

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OBSERVATIONS ON THE TREATMENT OF GENERAL PARALYSIS AND TABES DORSALIS BY VACCINES AND ANTISERA.—Robertson—M'Rae (Rev. *Neurology and Psychiatry*, September, 1907).—The basis of the treatment instituted in the diseases mentioned in the title of this paper, is as follows: The authors had definitely ascertained that a threading diphtheroid bacillus isolated from the brain and bronchus of a rapidly progressing case of general paralysis, was capable of producing a subacute disease in rats in which the symptoms were distinctly comparable to those of general paralysis; that on post mortem examination of the animals the brain showed the characteristic changes of general paralysis and that there was also the characteristic invasion of the thread bacillus. The conclusion seemed to be justified therefore that of all the forms of bacteria found in general paralysis there was one form which seemed to be capable of producing the disease.

*Method of Vaccination.* The material employed was a suspension of a weighed quantity (10.30 mgr.) of the bacilli in 2.5 c.c. of sterile saline solution heated to 60° C. for fifteen minutes. The emulsion was given subcutaneously. Local effects varied from the merest induration at the site of the puncture to erythema and edema of the subcutaneous tissues. The immediate general effects were the production of brief pyrexia, flushing of the face, headache and drowsiness, while increase of tremors,

ataxia and a return of lightning pain occurred in some cases. Mentally there were remarkable changes in not a few of the cases. Nine cases were treated in this way. The results of these observations would seem to show that repeated vaccinations might prove a useful method of treatment in tabes and general paralysis. That the method was not pursued further was owing to the fact that the authors were merely waiting until they could prepare a suitable antiserum, and the vaccines were simply used for experimental purposes. Sheep were selected as being the most convenient animal for the preparation of the antiserum. Twelve sheep were immunized to various strains the virulent diphtheroid bacillus. The serum is administered by hypodermic injection, by the mouth, through the nose and, in one case, by the rectum. The only local effect is a little induration. Serum urticaria occurred in nearly all the cases. When the serum was given by the mouth local effects were manifested by the development of nausea, vomiting and diarrhea in some cases, and the occurrence of a feeling of hunger in nearly all cases. General effects were chiefly drowsiness, diaphoresis and malaise. The therapeutic effects on the mental and motor symptoms is shown by the account of a number of cases so treated. Thirty-four cases of general paralysis and two cases of tabes have been subjected to the antisera. All of these have yielded positive results as regards temperature and other phenomena. Twelve of these cases have been under the personal observation of the author for a period of three months and they have shown remarkable degrees of improvement. An interesting part of this study has been the control cases. Various other mental diseases were subjected to the antisera and none of them showed the characteristic reaction to the specific sera. In conclusion there is the following: 1. That the antisera which we have been working produce reactions which are diagnostic of general paralysis, or tabes dorsalis. They are probably due to the liberation of endotoxins. 2. Cases of these diseases treated with the sera, in most instances undergo improvement. 3. A polyvalent anti-bacterial serum is likely to be more efficacious than either the mono or bivalent serum we have hitherto used. 4. One of the chief obstacles in the way of obtaining a very potent serum has been the loss of virulence in the strains of the organisms used. 5. There are grounds for believing that an antitoxin serum would be of use especially for the immediate treatment of congestive seizures. 6. In view of the presence of dissolving bacilli in the brain of the general paralytic, where in all probability they produce extremely virulent endotoxins, another aim should be the production of a serum containing chiefly an anti-endotoxin.

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## OPIHTHALMOLOGY.

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IN CHARGE OF  
JOHN GREEN, JR., M. D.

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RUPTURE OF DESCMET'S MEMBRANE FROM HIGH INTRAOCULAR PRESSURE.—Alt (*Am. Jour. Ophthalm.*, May, 1907).—Fissures in Descmet's membrane have been found especially in buphthalmus, high grade myopia and glioma retinae. Some observers appear to have encountered these

fissures frequently and others not at all. Alt believes that high pressure alone cannot be held responsible, but that other factors, such as the softer tissue of the child (in examples occurring in glioma) and disturbance in the nutrition of the corneal tissue, are to be held accountable.

Recently in a case of glioma, Alt observed two double contoured gray lines running in the deeper layers of the cornea concentrically with the corneal periphery, the one two mm. from the temporal, the other three mm. from the nasal margin. Sections showed the ruptured ends of Descemet's membrane rolled up spirally towards the cornea or projected straight into the anterior chamber. The close packing of the overlying corneal lamellæ and their straightened appearance suggested that at the time the ruptures occurred the cornea was also torn to some extent. That the ruptures were not very recent was proved by the fact that the ruptured ends were covered with endothelium, and that a new Descemet's membrane had formed in the gap between the ends, which were also covered by a layer of endothelium. Opposite these ruptures Bowman's layer was wanting for some distance, the corneal tissue being simply covered with epithelium.

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SECONDARY CATARACT.—Lubowski (*Klin. Monatsbl. f. Augenh.*, April, 1907).—The author recommends a method of dissection which he has employed for the last two years. At the outer side of the cornea he makes a puncture with a small keratome, then introduces a sharp cystitome or Stilling's harpoon, sinks its point into the membrane at the opposite side of the pupil, draws it back to the aperture of entrance, thus making a horizontal cut which usually gapes widely. After it has been ascertained that no vitreous threads are caught in the wound, a dusting of iodoform and bandage complete the operation. On the following day the eye will be found quiet and the wound firmly closed; the dressing may be dispensed with and the visual acuity ascertained. It is not necessary to take the patient into the hospital. The method is applicable not only to thin but to fairly stout membranes; it is not suitable for tough, adherent complicated cases.

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A CASE OF PERFORATION OF THE CARUNCLE FROM BLENNORHOEA OF THE LACHRYMAL SAC.—Boley (*Woch. f. Ther. u. Hyg. des Auges.*, No. 30, 1907).—A young girl suffering from slight ozena developed a swelling of the lids and bulbar and palpebral conjunctiva of the left eye. The plica and caruncle were so large and red that identification of their parts was difficult. By pressure over the lachrymal sac thick yellow pus could be driven from the puncta and similar pus exuded from the caruncle. In the caruncle was a crater-like depression which communicated with the lachrymal sac as evidenced by fluid injected into the sac escaping from this opening. Irrigation with 10 per cent protargol solution, gentle massage and boric fomentations resulted in a complete cure.

Boley considers that the cause of the trouble must have been an infection of the lachrymal sac from the nose by some virulent micro-organism, and that the acuity of the inflammation was such that the duct and canal-



iculi were insufficient channels of exit for the pus, which penetrated first the wall of the sac and then the caruncle.

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NOTE ON A LITTLE KNOWN FORM OF COMPLICATED CATARACT.—Purtscher (*Arch. d'Ophthalm.*, April, 1907).—The form of cataract to which Purtscher alludes is not generally noticed in the literature on the subject of diseases of the lens. Four cases are detailed—two brothers, their sister and a man who was no relation. In all the cases the cataracts appeared about the age of thirty; they were either cortical or more commonly total; the sclerotic was thin or of a porcelain bluish white, the anterior chamber was very deep; the iris was of a dirty grey brown colour and showed none of the usual trabecular structure, though sometimes concentric folds were visible; a very irregular ectropion of the uvea was usually present; the pupils were sometimes contracted, generally unequal, acting badly to light, to accommodation and to atropine. Iridodonesis was marked in most of the eyes and the vitreous was often so fluid as to escape with aqueous when the anterior chamber was opened. In all the cases there was a strong predisposition of the eyes to glaucoma, cyclitis and detachment of the retina on any operative interference.

If operative intervention is absolutely necessary probably a preparatory iridectomy, followed by extraction of the lens by means of a spoon or hook, offers the best chance of a successful result.

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## OTOLOGY AND LARYNGOLOGY.

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IN CHARGE OF  
W. E. SAUER, M. D.

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TUBERCULAR INFECTIONS OF THE FAUCIAL TONSILS.—Robertson (*Laryngoscope*, August, 1907).—The author found that 8 per cent of patients presenting for nose and throat symptoms, exhibited primary tuberculosis of the faucial tonsil; also that a large number of these patients exhibited lung tuberculosis as a direct infection from the gland through the lymphatic chains.

If we inoculate the tonsil with a strong tubercular culture, we are able to produce this infection of the gland, and we are aware that it is harder for an inoculation to take place on the surface of the gland than in the crypt, because of the thickness of the covering of the tonsil by squamous epithelium. In caseous tonsils we have crypts filled with cheesy material composed of epithelial cells and numerous varieties of bacteria, especially those crypts which have some obstruction to the opening, and these we find in the upper part of the gland, or in the supra-tonsillar fossa. If the opening of the crypt is occluded or pressed upon, the material is pushed deeper into the crypts; here this material lies and decomposes, forming an autoinfection which occurs most frequently in the depth of the crypt, and the lymph bodies then take up the tubercular infection. In examining hundreds of tonsil specimens, the author found that solitary lymph bodies broke down with epithelioid degeneration, and showed the presence of tubercular giant cells. The infection is taken up readily by the lymphatic glands, as was shown by

tubercular infection of the cervical lymphatics before the infection in the tonsil had affected more than two or three lymph bodies surrounding a crypt, and when once the cervical chain is involved, the infection is readily carried to the lungs.

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EDUCATIONAL TREATMENT OF THE DEAF IN ALL THE STAGES FROM IMPAIRED HEARING TO THE TOTALLY DEAF.—Love (*Jour. of Laryngology*, September, 1907).—After a thorough study of the subject in the leading schools of the world, the author has come to the conclusion that the present system of educational treatment of the deaf, while beneficial to the majority, works a great injustice to a large percentage of these unfortunates.

He believes that before deaf-mute children are placed in an institution, they should be thoroughly examined clinically, in order to determine, first, when did the child become deaf, and second, how much hearing he has left. You cannot restore the child's hearing, but you can save what is left and build speech thereon. If there be no hearing at all, but some unforgotten speech, you can save that and build more speech on it. In all large institutions you will find that from 5 to 10 per cent of these children lost their hearing between the ages of 3 and 10, as the result of scarlet fever, measles, etc., and they have a good deal of speech left, but are totally deaf. These are the semi-mute. About 15 to 20 per cent of the children are semi-deaf, who after a little experience, distinguish and repeat vowels, consonants, or words which are spoken into the ears. These children, the semi-mute and the semi-deaf, the author believes should be taught orally. In their education, no manual alphabet should be used, neither should any systematized sign-language be employed; they will lose what speech they have and become quite dumb. The oral teaching of the semi-mute and the semi-deaf has been tried in Nyborg, Vienna and Munich, and it was found that they make much more rapid progress than when associated with the totally deaf and dumb.

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LARGE TUMOR OF THE LARYNGOPHARYNX, REMOVED BY SUBHYOID PHARYNGOTOMY.—Chappell (*Med. Rec.*, July 13, 1907).—The author reports an interesting case of a large tumor that filled nearly the entire laryngopharynx, removed by a subhyoid pharyngotomy. The patient, whose age was 51, began having a short dry cough at the age of 18 which continued up to the age of 45, when her breathing became quite labored, being worse at night; and about two years ago she began to choke on particles of food, vomited a meal occasionally, and could not sleep on account of embarrassed respiration. A laryngoscopic examination revealed a large grayish-blue mass completely filling the laryngopharynx; the pedicle was close to the left ary-epiglottic fold, and seemed to consist of large vessels. A cold snare could not be gotten around the mass on account of adhesions, so a subhyoid pharyngotomy was resorted to and the tumor removed. The tumor was smooth, irregular in shape, weighed 20 grams, had a circumference of  $4\frac{1}{2}$  inches, and consisted of fibrous tissue. Patient made a complete recovery and was restored to health. The author states that in looking over the literature, some eleven tumors of a similar nature have been reported.

## CORRESPONDENCE.

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### LONDON LETTER.

(FROM OUR OWN CORRESPONDENT.)

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The third volume of the minutes of evidence, just issued by the Royal Commission on Vivisection, contains some interesting reading, interesting as showing on what grounds some of the opponents to experimental research justify their position. One of the most notorious of these, the Hon. Stephen Coleridge, managed in the course of his three days' examination, to drag into his evidence opinions from Shakespeare and Dr. Johnson. One may well exclaim, "*Que diable allaient—ils faire dans cette jalese?*" Mr. Coleridge, however, is a past master in piecing together fragments and presenting them as a complete quotation. After a vivid flight of imagination, purporting to be an exact description of what goes on in laboratories and to be based upon the evidence extorted in the libel case in which he was cast in heavy damages, Mr. Coleridge proceeded to favor the commissioners with his views on the ethics of the question. Although vivisection is wrong because it inflicts pain, he does not consider it immoral to make use of knowledge which has been obtained as the result of painful experiments, but no more are to be allowed. By way of analogy he explained that, though he utterly condemns on every ground the slave trade, he would not deem it either immoral or illegal to enjoy the results of a fortune accumulated in that trade by his great-grandfather—if such had been the case. He then proceeded to "measure other people's corn by his own bushel." He is an unrepentant lawbreaker in the matter of speed in his motor car, and when caught *flagrante delictu*, promptly denies that he has been exceeding the speed limit. In his opinion vivisectionists regard the Vivisection Act with the same contempt that he himself has for the Motor Car Act.

No explanation was vouchsafed as to what particular benefit accrues to research workers by evasion of the law, or why they should prefer, as alleged, to carry out experiments, demanding extreme care and nicety of touch, on the writhing bodies of unanesthetized animals instead of making them on those under the peaceful influence of a general anesthetic. The Royal Commission bids fair to do a great deal of good, for the anti-vivisectionists are being given plenty of rope and the usual consequence will follow. They seem to have some prevision of their fate as they have, by dint of disparaging the board, done their best to discount in advance the ultimate findings of the Commission.

On the 1st October appeared the new medical journal devoted to clinical medicine, under the title of the *Quarterly Journal of Medicine*, with an editorial staff composed of Professor Osler, Dr. Rose Bradford, Dr. Robert Hutchison, Dr. A. E. Garrod, Dr. H. D. Rolleston and Dr. Hale White. In the papers published the subjects are to be dealt with "more comprehensively and in greater detail than has hitherto been possible," so that the style will be that of the *Deutsches Archiv für klinisches Medizin*. Whether there is room for such a publication re-

mains to be proved, but the names of the editors are amply sufficient to ensure that the contents will be the highest class. Osler, Hutchison, Byrom Bramwell and G. A. Gibson are among the contributors to the first number.

Allusion was made in one or two of the introductory lectures on the 1st October to the long-desired consummation of a real University of London—real, that is, in its equipment for teaching. Eventually, something of the nature of a cerebellum will be evolved, which will co-ordinate the vigorous exhortations made in the separate medical schools in London to cope with the necessary instruction in anatomy, physiology and other sciences auxiliary to medicine, such as chemistry, biology and natural philosophy. Already some of the smaller schools are collaborating for these purposes, but what is wanted is the one great institution with the honor, the dignity and the *cachet* of an university status, and invested with endowments on a sufficiently liberal scale to pay to the professors and lecturers salaries which are properly commensurate with their high position, and at the same time to admit of the establishment of research fellowships. The achievement of this great purpose is beset with difficulties, but many of these would vanish if a few of those well able to afford the luxury would resolve to have their names enshrined in the University records and be commemorated at the festivals as "pious founders and benefactors." Science for the sake of science could then be followed in every branch, freed from the worries and anxieties of *res angustae domus*, which, at present, represents about all there is to be gained by her devotees. It certainly does not conduce to progress,

"For there never was yet philosopher

That could endure the toothache patiently."

Sir James Crichton-Browne has managed to set another volcano in eruption by his shrewd and eminently practical remarks on food, declaring his adhesion to the sirloin and the mutton chop. The food faddists, as may be imagined, are extremely wroth and have emitted torrents of fiery denunciation. In the constant rise and fall of fads, it is very satisfactory to note that the uric acid fetish is beginning to lose its hold on its innumerable worshipers, including many in the ranks of the medical profession. It still holds ground, for it offers such a charmingly simple explanation of many things. Gull used frequently to remark, "Savages and fools explain; wise men investigate." A little while back, Lutt inveighed against the shameful manner in which "a harmless by-product in metabolism had been exploited as a dangerous poison." In his latest work on gout he saps the very foundations of the uric acid position, leaving it quite defenseless.

The increased rate of cases of insanity is a topic which gives rise to much headshaking and gloomy foreboding. The interest in the subject is perennial, but it is always subject to an exacerbation on the appearance of the annual report of the Lunacy Commissioners. On the face of it the numbers certainly look alarming, for the increase in certified lunatics during the last fifty years has been three times as great as the increase in population. The commissioners, however, insist that three factors are sufficient to account for the whole of the increase. In the first place, certification has become more and more strict, so that a very much larger proportion of those formerly classed as feeble-minded are now certified



for asylum treatment. The larger number of rate-supported institutions is necessary to satisfy the demands due to this increase, which almost entirely affects the pauper class. Another factor is the greater accumulation of patients in asylums, partly due to the foregoing and partly also to a third factor, the decrease in the number of cases discharged as cured. The report therefore gives no support to the depressing and pessimistic prognostications uttered in various quarters.

October 10th.

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### PARIS LETTER.

(FROM OUR OWN CORRESPONDENT.)

If there is one question which on account of political, historic-economical, and hygienic reasons is not regarded in France with indifference, it is the one involving the use or non-use of wine. Formerly sung in all keys by the poets and universally praised by the gourmets, French wine has recently been the object of the harshest sort of criticism, the effects of which almost resulted in a crisis in the national prosperity. For this crisis the physicians have been held partly responsible, and the time seems opportune to inquire into the reasons and the injustice of this accusation.

The prohibition of wine by a large number of physicians is a fact. But it is well to remember that the majority of physicians who do not prescribe it systematically only combat its use in healthy subjects, and place their interdiction on its use in certain determined pathological cases. Without a doubt the use of wine by a person afflicted with gastritis or a gastric ulcer, aggravates the disease. Moreover in certain particular cases medical prohibition can find justification in the increase of fraudulent wines. To such an extent are these frauds perpetrated that it is almost impossible to procure a wine that is made of the pure grape juice, and this is the true reason why a number of physicians have ordered the discontinuance of wine in families. Snobbishness has done the rest.

Truth to tell, the physicians are really the best apologists for the use of wine on condition that it be taken moderately, and by persons in good physical condition. Instead of accusing physicians of being the cause of the underselling of wines, one is justified in saying that the interdiction placed on alcohol and liquors has been the determining factor in the reaction which will bring about the return of the popularity of the vine to the detriment of laboratory mixtures. If we were to mention the number of works which have come from the pens of French writers and which are favorable criticisms on the consumption of non-adulterated wines, the number of pages in this Journal would be inadequate. Furthermore it would be well to mention what French physicians have written extensively on the alimentary and therapeutic value of wine.

"Since nature does not supply us with a ferment," said J. J. Rousseau, "it is wrong to believe that the usage of artificial drinks is necessary to the life of her creatures." This is a specious argument. Professor Arnozan, of Bordeaux, put the matter succinctly when he said, "One

should do without any substance that is useless and harmful." Moreover wine is not a simple dilution of alcohol but a complex entity of which each component part has its utility. Therefore no modification of its proportions should be tolerated. Tannin, tartrate of iron and phosphate of lime, in particular, should never be regarded as the inert components of wine. Natural wine is an aliment of reparative, caloric, stimulating, estrigent, diuretic and digestive qualities. Mixed with water the dose amounting to 50 or 60 centilitres per day is of the greatest service in the alimentation of healthy subjects.

A number of physicians are of the opinion that the utility of wine is not limited to the healthy and that the sick are also benefited to an appreciable extent. While in cases of acute gastritis or in affections of the stomach where the mucous membrane is hyperesthetic, the administering of wine is contraindicated, it is now firmly believed that this contraindication does not apply to all dyspepsias. On the contrary, wine has a favorable action in certain cases of salivary dyspepsia; it stimulates the hydrochloric acid and therefore must be considered a eupeptic agent. The tuberculous, the convalescents, the diabetics should drink wine, particularly a Bordeaux claret. It has been noted that wine readily kills the pathogenic microbes of cholera. The same antiseptic action occurs with the bacillus of typhoid fever. Red wines destroy Eberth's bacillus in two hours when the wines are pure; in four hours when they are mixed with an equal amount of water. It is said that the majority of French physicians are convinced that wine is a useful drink for adults and for children after their second year. If it is true that they prescribe wine as reported, it is done after due deliberation and in certain determined pathological cases. The opponents to the use of wine base their so-called hostility on the desire to establish confusion in the minds of the masses in connection with alcoholic drinks, liquors and wine. The wine problem and alcoholism are two distinct and unrelated questions. It should not be forgotten that when we consider the wine problem we mean only pure wine and not the adulterated product. It is the abuse of wine that is deplored, not its moderate usage; it is against the abuse and also against certain frauds that the medical men array themselves so strongly. But above all, alcoholism and absinthism are attacked by them; and one of the best remedies proposed to prevent the increase of alcoholism is the consumption of natural wine, such as is produced in the vineyards of France.

To hold the medical profession responsible for the economic crisis which has lately taken place as a result of the decreased sale of wine would be wrong; other causes much more plausible are at the root of it. On the contrary, the much maligned wine problem is greatly indebted to the profession for its rehabilitation. If anything the profession views the national product—wine—with complaisance despite the fact that the producers themselves have made the accusation that many physicians were instrumental in bringing about the crisis relating to vine culture.

October 16th.



## OBITER DICTA FROM FOREIGN JOURNALS.

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### REGRETTABLE EXAGGERATIONS: TEETOTALERS AND CENOPHILISTS.

Dr. J. Noir, in *Le Progres Medical*, has the following to say on this vital subject: Recently, alcohol as a poison and alcoholism as a social scourge have been topics for much vituperative controversy. The ravages induced by this poison, the increasing number of mental diseases and the reports that appear in the lay press on the subject of criminality, have inflamed the popular imagination to so great an extent that superficial thinkers and many continent persons are waging a merciless war against its use. The crusade has now been on for some time and the fruits of the many discussions are within reach of anyone who is interested in the matter. Temperance societies that were formed or are being formed throughout the world are much more aggressive than formerly; they federate, organize congresses, distribute circulars in schools, force their way into barracks, and even preach their tenets in workshops. Catholics, Protestants, Free-thinkers, Conservatives, Liberals, Radicals and Socialists, are as one when discussing the use of alcohol.

Unfortunately for the benefits which might have followed this movement of reform, the enthusiasm of the workers has resulted in a veritable religion that has all the drawbacks of a belief when its dogmas convert the faithful into the worst sort of fanatics. And these fanatics, masquerading in the guise of teetotalers, are doing much to bring the fight against alcohol in France into disrepute.

At the last International Anti-Alcoholic Congress, at Stockholm, the fanaticism of the narrow-minded abstainers was graphically illustrated. The virulence of their arguments had enough of the comic to have caused much laughter had a less serious subject been under discussion. At this Congress, Prof. Landouzy was jeered and repeatedly interrupted because he had the audacity to affirm that alcohol, in small quantities, was a stimulating aliment, a view he felt himself justified in taking because, physiologically, its worth had been established as part of the normal diet. The abstainers rose *en masse* and denounced him as an enemy of humanity, an instigator of drunkenness, a supporter of immorality! Strange, indeed, that he was not lynched by his opponents of both sexes, for they were in a murderous frame of mind, evidences

of which had been given, the night before, in a conference which bore the title, "Alcohol and the Sexual Question."

To combat Prof. Landouzy's revolutionary remarks, a French delegate aroused the greatest enthusiasm by saying "that civilization is a product of the North and that the Germanic races, due to their abstinence from the use of wine, are the chief agents in the progress of humanity. Civilization had its cradle in the northern fogs and the people living on the Mediterranean today are showing unmistakable signs of degeneration, a fact which can be explained only on the ground that they are wine drinkers." If this is so, let us refrain from speaking again of the marvelous civilization of the Chaldeans, Egyptians, Assyrians, Greeks and the Latins; for the tales we have heard about these races must be untrue, since they were always addicted to wine.

Prof. Taar Laitinen, of Helsingfors, by the aid of many hecatombs of guinea pigs and rabbits, proved that the regular use of alcohol, even in small doses, was a cause of degeneration, from which it was easy to conclude that moderate wine drinkers were responsible for the degenerates and idiots with which civilization is cursed.

On the other hand, wine itself has been elevated to the false position of a god, whose followers are fanatics of the same sort as the Anti-Alcoholic enthusiasts. And in his name, let us add, the faithful are guilty of many stupidities.

Although there is no denying the good qualities of champagne, of Burgundy, and of Bordeaux, to state, as many purblind enthusiasts of wine have done, that the juice of the grape has many therapeutic qualities, is, to say the least, an unfortunate exaggeration. In spite of the learned essay that a member of the profession, who is both physician and senator, has published in one of our leading newspapers, we cannot but view with regret his advocacy of the use of wine by dyspeptics and children of tender years. And the statements that wine, even when diluted, is a strong microbicide, that the bacilli of typhoid fever and of tuberculosis are readily destroyed by it, leave us in a state of scepticism.

Teetotalers, enemies of the wine, and knights-errant of the juice of the grape, will you never see the discredit that your exaggerations are casting on equally good and just reasons for the use and non-use of wine! Many sensible persons who are mildly moved by the discussions, but who are partisans in the anti-alcoholic war, or defenders of wine, and are hopeful that the outcome will be beneficial to all, must, when they hear the recriminations which are the best part of the arguments, exclaim with Paladin: "O God, deliver me from my friends, I will take care of my enemies!" (Translated for the INTERSTATE MEDICAL JOURNAL).